

AM/FM STEREO RECEIVER

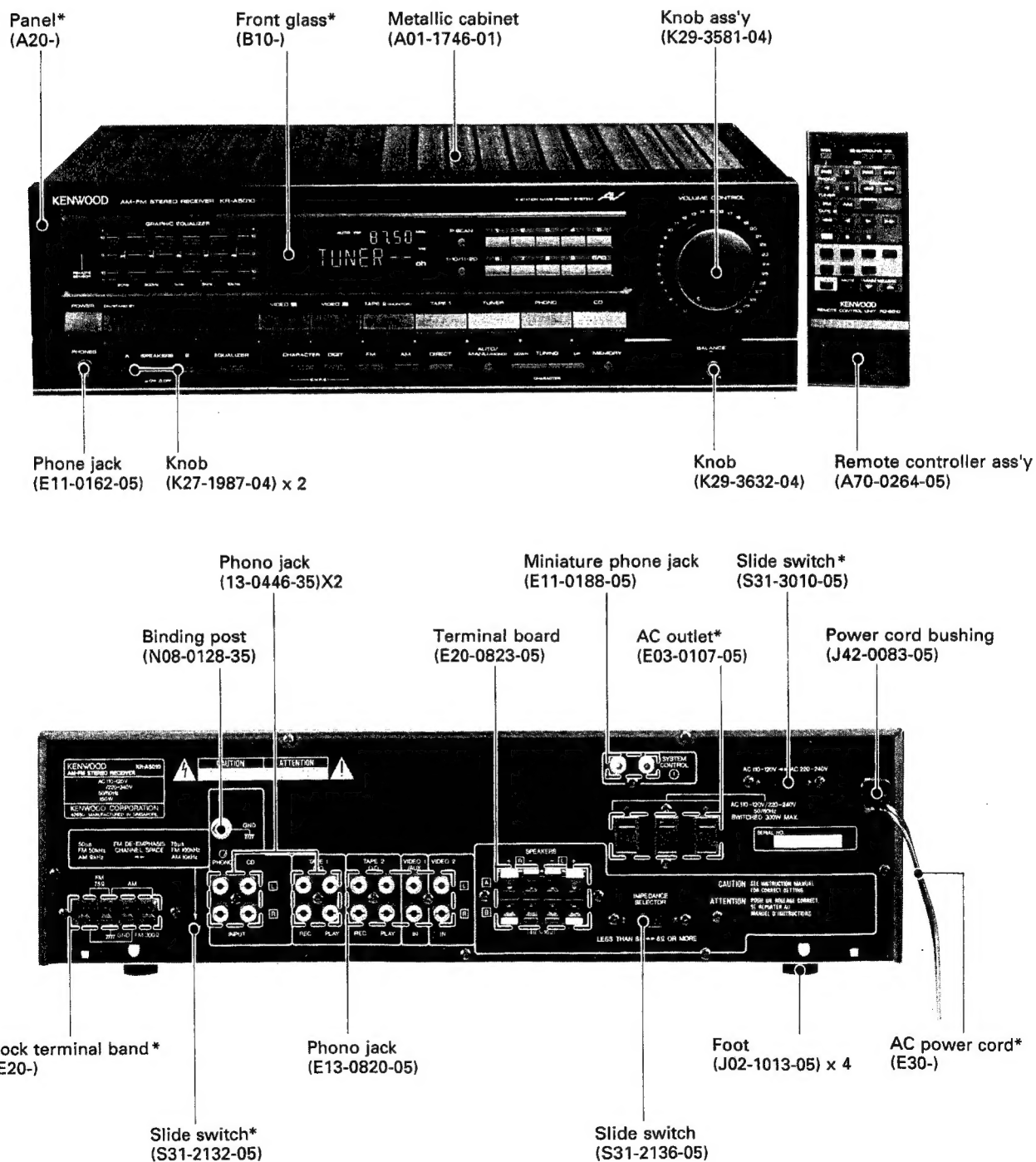
# KR-A5010

## SERVICE MANUAL

# KENWOOD

KENW-01737

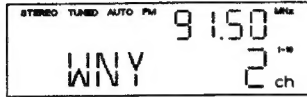
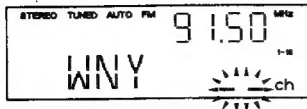
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B51-3895-00 (O) 2713



\*Refer to parts list on page 42.

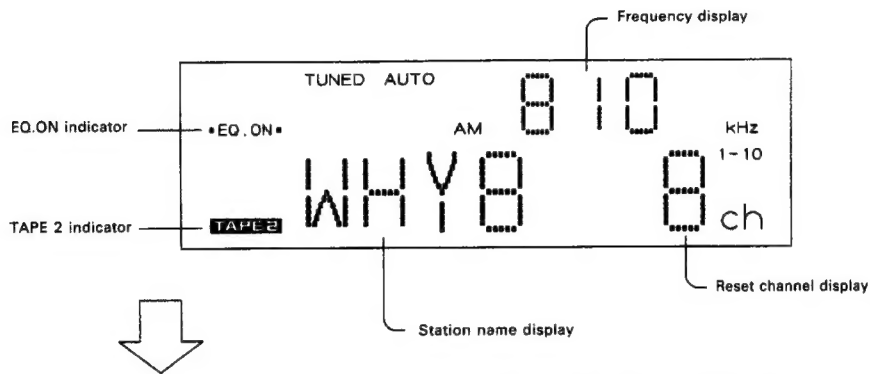


## LISTENING TO BROADCASTS



7. Press the TUNING/CHARACTER key to select "Y".
8. Since the fourth column should be left blank, press the DIGIT key twice or press the CHARACTER key.
9. Press the MEMORY key.

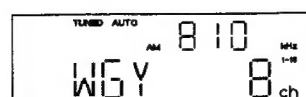
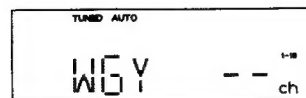
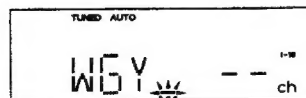
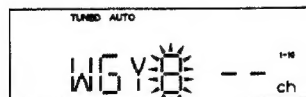
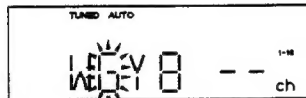
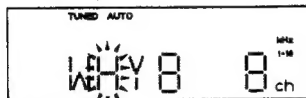
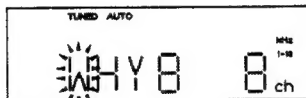
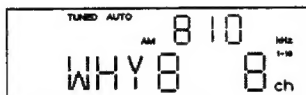
10. Press numeric key "2" to select preset channel 2.



### ■ To change a preset station name

Example 2: To change the name of the 810 kHz AM broadcast memorized in preset channel 8 to "W G Y".

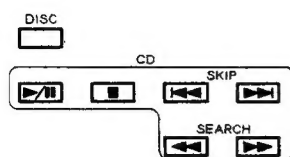
1. Recall the preset channel 8 with the preset function key and the numeric keys according to "Preset tuning".
2. Press the CHARACTER key.
3. Press the DIGIT key to move to the first character location to be changed.
4. Press the TUNING/CHARACTER key to select "G".
5. Press the DIGIT key twice.
6. Press the TUNING/CHARACTER key to select a blank.
7. Press the DIGIT key or the CHARACTER key.
8. Press the MEMORY key.
9. Press numeric key "8" to select preset channel number 8.



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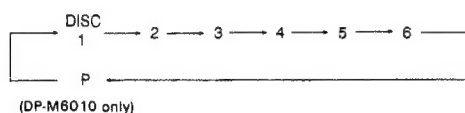
## REMOTE CONTROL

### ■ CD player control keys

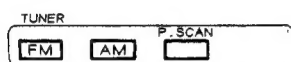


These keys allow the same operations as the keys with the same names on the CD player.

The DISC key is for use exclusively with a multiple CD player. Pressing the DISC key allows one of DISC 1 to DISC 6 to be selected in the following cycle.

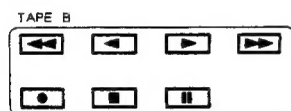


### ■ Tuner control keys



These keys allow the same operations as the keys with the same names on the receiver.

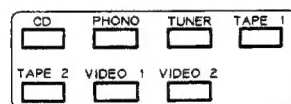
### ■ TAPE B deck control keys



These keys allow the same operations as the keys with the same names on the TAPE B deck.

**Note:**  
When the Fast Forward key is to be pressed after the Rewind key was pressed, press the Stop key first, then press the Fast forward key.

### ■ Input selector keys



These keys have the same functions as the input selector keys on the receiver.

### ■ POWER key



Switches the power of the receiver to ON/STAND-BY (OFF).

### ■ Equalizer/Surround key



EQ. key has same function as EQUALIZER key on the receiver.

The main body is not equipped with the Surround function.  
Therefore, the SURROUND key causes no effect even when it is pressed.

### ■ Turntable (PHONO) control keys



The Play () and Stop () keys are provided.

### ■ Volume level keys



**MAIN VOLUME keys:**

Pressing the key rotates the VOLUME CONTROL on the main body of the unit clockwise to increase the volume, and pressing the key rotates it counterclockwise to decrease the volume.

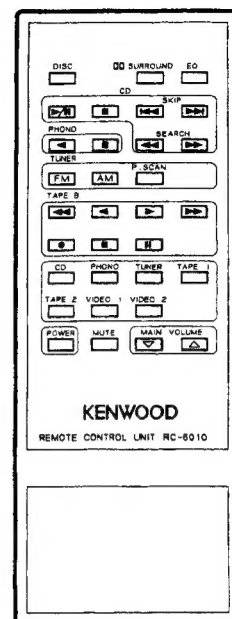
**MUTE key:**

The MUTE key is not provided on the main body. The muting can be controlled only from the remote control.

#### To mute the sound temporarily

Press the MUTE key on the remote control unit.

- The point indicator on the MAIN VOLUME CONTROL knob blinks, and the output sound is muted.
- The muting is canceled when the MUTE key is pressed again or the MAIN VOLUME UP or DOWN key is pressed.
- When the muting is canceled, the point indicator on the MAIN VOLUME CONTROL knob stops blinking and starts to light steadily.



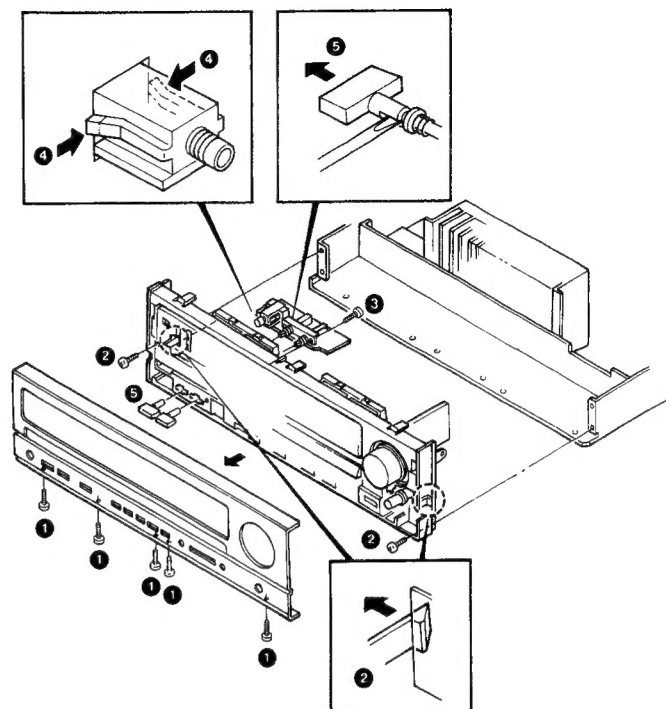
In case any of the following models is used, the CD manual search cannot be operated from this remote control unit:

DP-M97, DP-57, DP-47

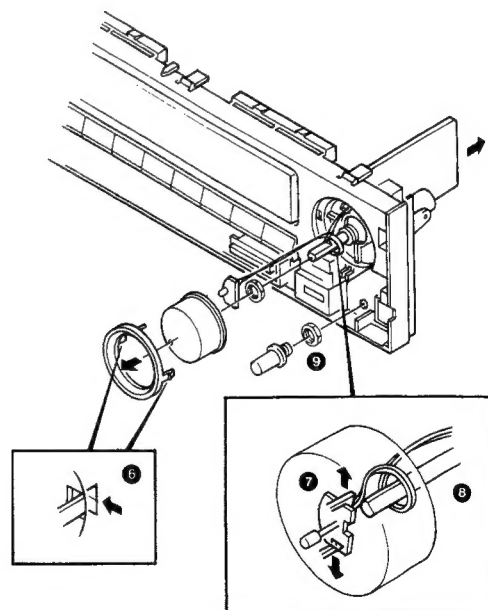
## DISASSEMBLY FOR REPAIR

Before repair work, take out the case.

1. Remove the five screws, then detach the front panel (1).
2. Remove the two screws, then undo the catch of the sub panel (2).
3. Remove the one screw (3).
4. Undo the catch of the PHONES, then detach the PHONES board (X14-) (B/3) (4).
5. Detach the knob using a screwdriver (5).



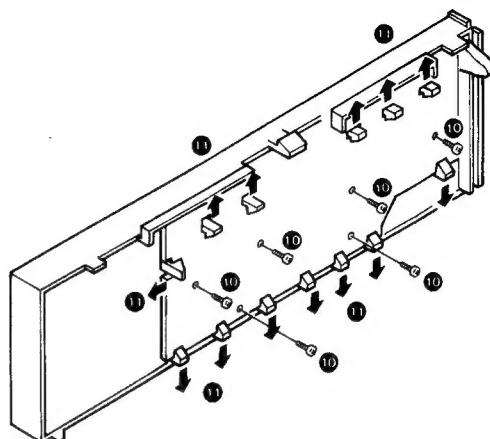
6. Undo the catch, then detach the knob ring (6).
7. Undo the catch of the VOL LED (7).
8. Disconnect the LED leads (8).
9. Take out the hexagonal washer of the knob (9).



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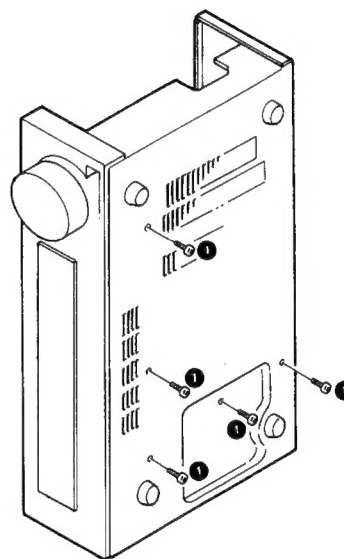
## DISASSEMBLY FOR REPAIR

10. Remove the six screws, then detach the display board (X13-) (A/11) (10).
11. Undo the 13 catches (11).

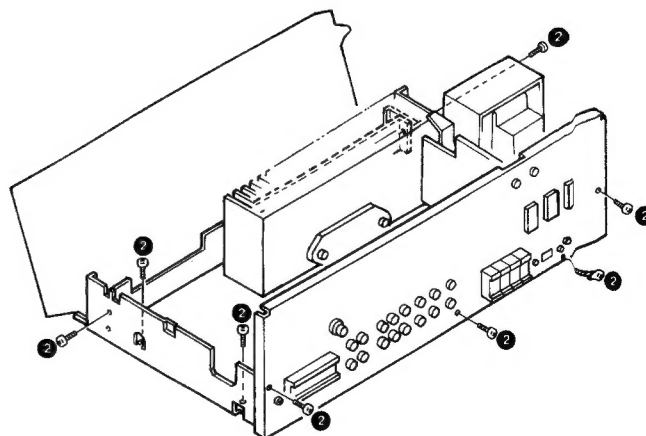


When repairing or checking the main PC board and power supply PC board refer to the following steps.

1. Remove the five screws (1).

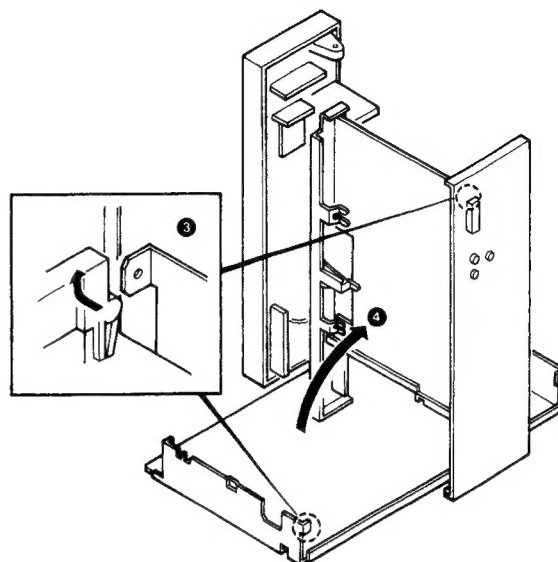


2. Remove the eight screws (2).



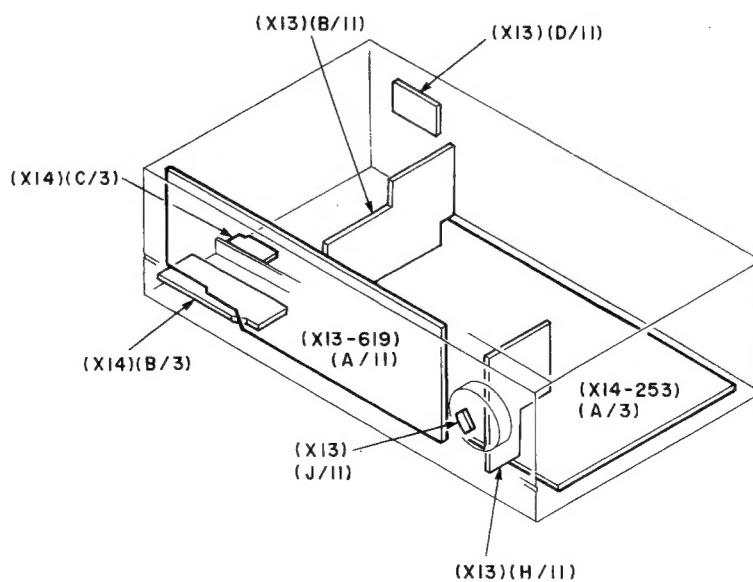
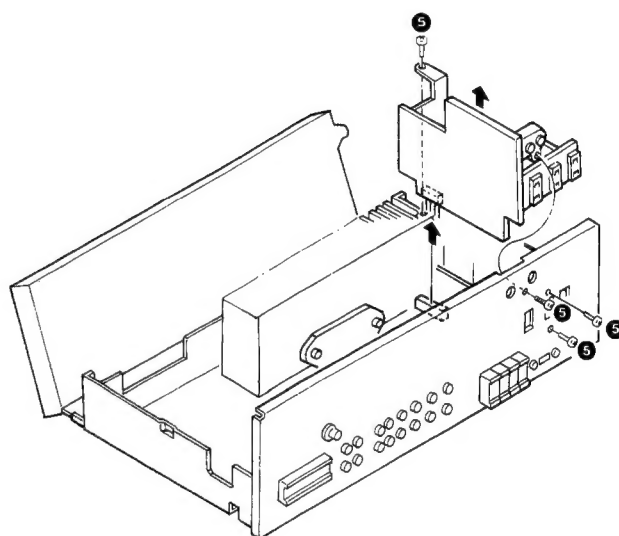
## DISASSEMBLY FOR REPAIR

3. In this way, the FM terminal mold will hit against the chassis. To avoid this, lift up the main body putting aside the rear panel in the direction of an arrow (3 4).



4. When picking up the power supply block, remove four screws (5).

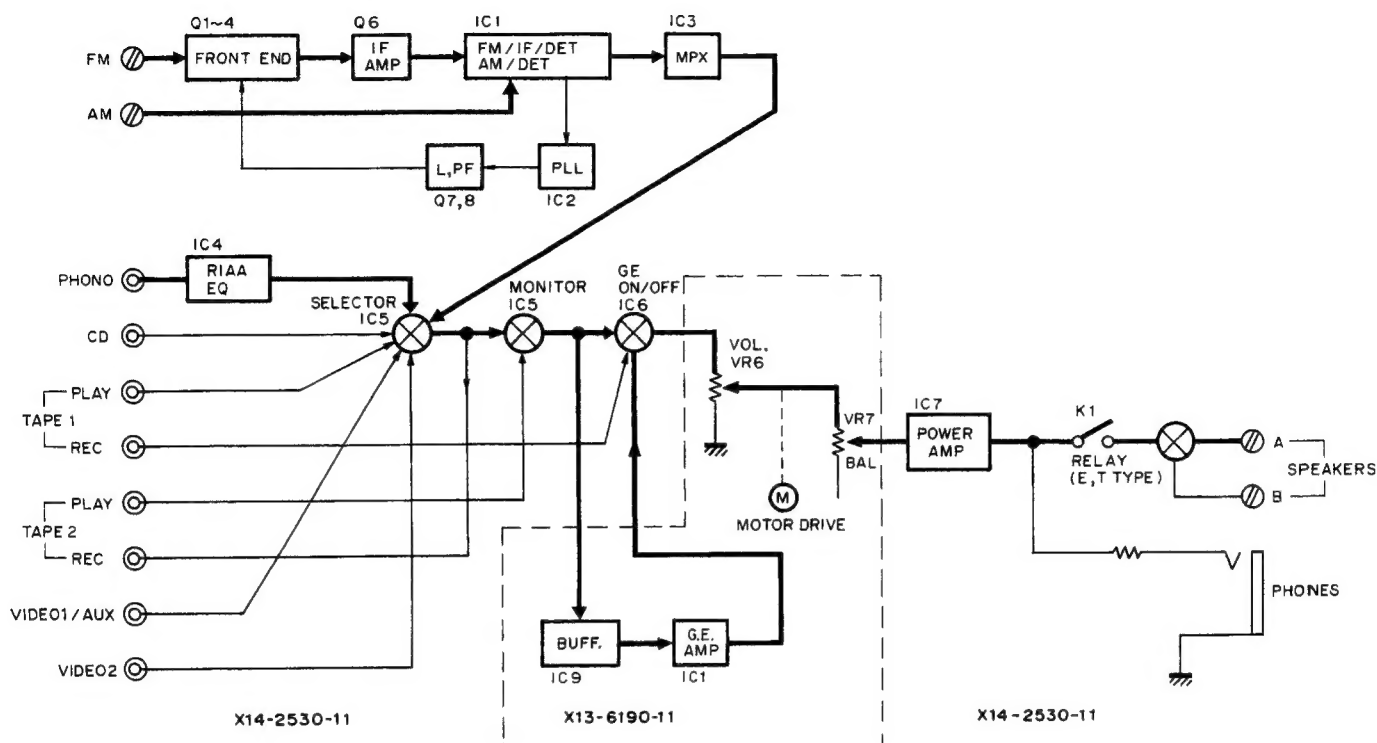
**Note :** Be adequately careful in inserting the connector.



# KR-A5010

## BLOCK DIAGRAM/CIRCUIT DESCRIPTION

### Block diagram



### Circuit description

#### 1. Description of Components

SUB UNIT (X13-619X-XX) 0-11 : K, P 0-22 : M, U, UE 0-71 : X 2-71 : E

Ref. No.	Part No.	Use/Function	Operation/Condition/Compatibility
IC1 ~ 3	AN6554 NJM2058D μPC4574C	Graphic equalizer amplifier	
IC4	PST529C	Reset	Reset for microprocessor.
IC5	CXP5016-330S	Microprocessor	
IC6	LB1641	Motor driver	For volume control.
IC9	NJM4558D M5218P	Buffer amplifier	For equalizer amplifier.
Q1	2SC945(A)(Q,P) 2SC1740S(Q,R)	Reset	For microprocessor.
Q2	2SC945(A)(Q,P) 2SC1740S(Q,R)	Buffer amplifier	For FL driver.
Q3	2SA733(A)(Q,P) 2SA933S(Q,R)	Switch	Channel space selector (M, U, UE type).
Q4, 5	DTC124EN	Indicator drive	Point of volume control knob.
Q6	DTA124EN	Indicator drive	Light <STEREO> letter in FL.
Q11	2SC2003(L,K)	+ AVR	+5.6V.
Q12	2SB772	- AVR	-30V.
Q13	2SC2320(E,F)	Relay driver	Power supply ON/OFF.

## CIRCUIT DESCRIPTION

TUNER UNIT (X14-253X-XX) 0-11 : K, P 0-22 : M, U, UE 0-71 : X 2-71 : E

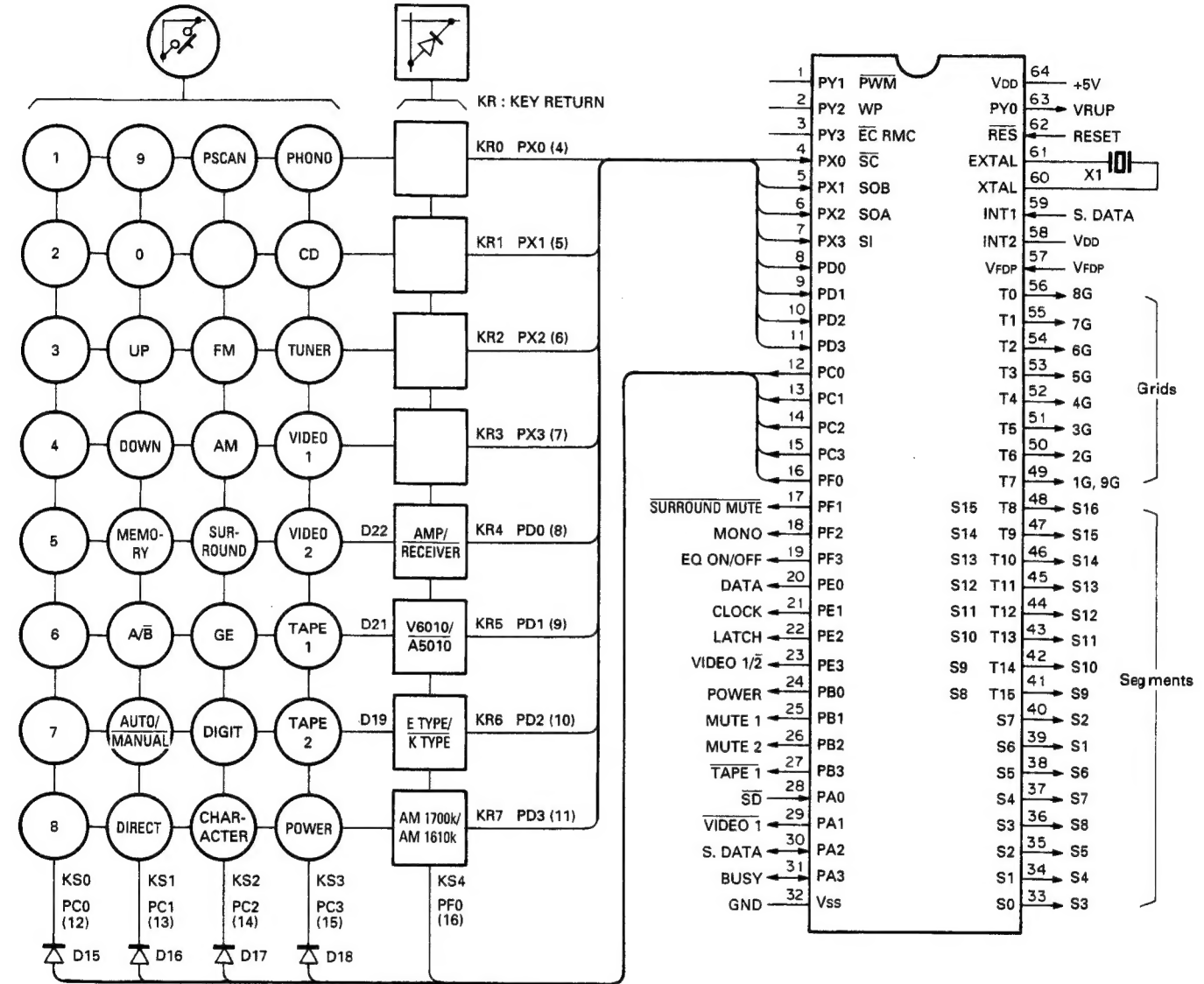
Ref. No.	Part No.	Use/Function	Operation/Condition/Compatibility
IC1	LA1265	FM/AM system IC	FM IF amp detection and control. AM mixing, IF amp and detection.
IC2	CX-7925B	PLL IC for frequency synthesizer	PLL for electronic tuning.
IC3	AN7470	MPX IC	MPX demodulator.
IC4	M5218P-A NJM4558D-A	Equalizer amplifier	Equalizer amplifier for PHONO (MM).
IC5	LC7820	Input selector SW	Analog switch array for input selector switches.
IC6	TC9215P	GE and TAPE 1 SW	Analog switch array for GE ON/OFF and TAPE 1 REC OUT ON/OFF.
IC7	STK4201/2	Main amplifier	Main amplifier (2ch). (K, P, U, UE, M, X type)
IC7	STK4201/5	Main amplifier	Main amplifier (2ch). (E type)
IC8	μPC7812HF	Constant voltage power supply	3-pin regulator for the +12V constant voltage power supply.
Q1	2SK241(Y)	RF amplifier	High-frequency amplifier. (K, P, U, UE, M, X type)
Q1	3SK73(GR)	RF amplifier	High-frequency amplifier. (E type)
Q2	2SC1923(O)	Mixing	Frequency converter.
Q3	2SC1923(R,O)	OSC	Local oscillator.
Q4	2SC1923(R,O)	OSC buffer	OSC OUT (oscillator output) for synthesizer.
Q5	2SK161(Y,GR)	OSC buffer	For local oscillator input to mixer. (E type)
Q6	2SC1923(R,O)	FM IF amplifier	10.7MHz amplifier.
Q7	2SC1845(F,E)	LPF	Low pass filter for PLL.
Q8	2SC945(A)(Q,P) 2SC1740S(Q,R)	LPF	Low pass filter for PLL.
Q9	2SC945(A)(Q,P) 2SC1740S(Q,P)	Buffer	Buffer for L6. (E type)
Q10,11	2SC945(A)(Q,P) 2SC1740S(Q,R)	Emphasis switch	ON for 75μs, OFF for 50μs. (M, U, UE type)
Q12	DTC124ES	FM +B control	
Q13	DTA114ES	FM +B control	
Q14	DTC124ES	AM +B control	
Q15	DTA114ES	AM +B control	
Q17,18	2SC2878(B)	Muting	TAPE REC OUT pop noise prevention during switching selector switch.
Q19	2SA733(A)(Q,P) 2SA933S(Q,R)	Muting control	
Q20,21	2SC2878(B)	Muting	Main amplifier pop noise prevention during switching selector switch.
Q22	2SA733(A)(Q,P) 2SA933S(Q,R)	Muting control	
Q25	2SA733(A)(Q,P) 2SA933S(Q,R)	Muting	Main amplifier pop noise prevention during switching power switch.
Q26,27	2SC1845(F,E)	Protection	
Q29	2SA733(A)(Q,P) 2SA933S(Q,R)	Error amplifier	-12V error amplifier.
Q30	2SA733(A)(Q,P) 2SA933S(Q,R)	Constant voltage circuit	-12V.
Q31	2SD1266	Constant voltage circuit	-12V.

# KR-A5010

## CIRCUIT DESCRIPTION

### 2. CXP5016-330S : Microprocessor (X13-619X-XX : IC5)

#### 2-1. Key matrix connections



#### 2-2. Setting of destinations, models and specifications depending upon diode key matrix

The setting of destinations, models and specifications is made according to the initial set diode key matrix. In the following, "1" means "with diodes" and "0", "without diodes".

##### 1) Destination set SW : E type/K type

Destination set SW	Destination	BAND	Reception frequency band	Channel space	Reference frequency
0	K	FM	87.5 ~ 108.0MHz	100kHz	50kHz
		AM	530 ~ 1610kHz 530 ~ 1700kHz	10kHz	10kHz
1	E	FM	87.5 ~ 108.0MHz	50kHz	50kHz
		AM	531 ~ 1602kHz	9kHz	9kHz

##### 2) Model set SW : AMP/RECEIVER, V6010/A5010

Model set SW		Model	Function		
AMP/RECEIVER	V6010/A5010		Tuner	Dolby surround effect	Video signal I/O
0	1	KR-V6010	Provided	Provided	Provided
0	0	KR-A5010	Provided	Not provided	Not provided
1	0	KA-78	Not provided	Not provided	Not provided

##### 3) Specification set SW : AM1700k/AM1610k

With destination set SW at "0" : Effective only for K TYPE

Specification set SW	AM reception frequency band
0	530 ~ 1610kHz
1	530 ~ 1700kHz

## CIRCUIT DESCRIPTION

## 2-3. Explanation of terminals

Pin No.	Pin name	I/O	Name	Function
1	PY1	O	VRDOWN	Volume down operation control. "H" : Volume down operation, "L" : Normal status.
2	PY2	I	BACK UP	Backup (power OFF) detection. "H" : Normal status, "L" : Power OFF. At power ON, an "H" signal is input. When an "L" signal is input, the clock pulse oscillation for the microprocessor is stopped and the backup mode is entered. When the signal is level becomes "H" from "L", the normal status is restored from the backup mode.
3	RMC	I	REMOCON	Remote control signal input. Active "L".
4 ~ 11	PX0 ~ PX3 PD0 ~ PD3	I	KR0 ~ KR7	Key return signal inputs. "H" : with input, "L" : without input.
12 ~ 16	PC0 ~ PC3 PF0	O	KS0 ~ KS4	Key scan signal outputs. Normally "H". When a key is pressed ON, key scan is performed.
17	PF1	O	SURROUND MUTE	Surround effect audio signal output ON/OFF control. "H" : Output ON, "L" : Output OFF.
18	PF2	O	MONO	Compulsory monaural output control. "H" : Monaural, "L" : Stereo.
19	PF3	O	EQ ON/OFF	Equalizer ON/OFF control. "H" : Equalizer ON, "L" : Equalizer OFF.
20	PE0	O	DATA	CX-7925B (PLL IC)/LC7820 (Selector IC) control serial data output. Data is latched at the rise of the clock pulse.
21	PE1	O	CLOCK	CX-7925B/LC7820 control serial data transfer shift clock pulse output. Data is latched at the rise of the clock pulse.
22	PE2	O	LATCH	Data latch signal output to CX-7925B. Data is latched particularly at the rise of the clock pulse.
23	PE3	O	VIDEO 1/2	Video signal selection control. "H" : VIDEO 1, "L" : VIDEO 2.
24	PB0	O	POWER	Power supply circuit relay ON/OFF control. "H" : Relay ON, "L" : Relay OFF.
25	PB1	O	MUTE 1	Line output mute control. "H" : Mute ON, "L" : Mute OFF.
26	PB2	O	MUTE 2	TAPE 2 recording output mute control. "H" : Mute OFF, "L" : Mute ON.
27	PB3	O	TAPE 1	TC9215P (Selector IC) control. TAPE 1 recording output ON/OFF control. "H" : Others, "L" : TAPE 1.
28	PA0	I	SD	Tuner tuning detection. "H" : No signal, "L" : Tuned.
29	PA1	O	VIDEO 1	TC9215P (Selector IC) control. VIDEO 1 recording output ON/OFF control. "H" : Others, "L" : VIDEO 1.
30	PA2	O	SDATA	Serial data output. Shorted with pin 59 for use.
31	PA3	I/O	BUSY	Serial busy signal I/O.
32	Vss	I	GND	GND.
33 ~ 48	S0 ~ S15	O	S1 ~ S16	FL tube segment drive signal outputs.
49 ~ 56	T7 ~ T0	O	1G ~ 9G	FL tube digit drive signal outputs. (However, grids 1G and 9G identical with each other.)
57	VFDP	I	VFDP	FL tube output driver circuit power supply.
58	INT2	I	-	Unused pin. Shorted with V <sub>DD</sub> .
59	INT1	I	SDATA	Serial data input. Shorted with pin 30 for use.
60	XTAL	O	XTAL	Clock pulse generation circuit output.
61	EXTAL	I	EXTAL	Clock pulse generation circuit input.
62	RST	I	RESET	Reset signal input.
63	PY0	O	VRUP	Volume up operation control. "H" : Volume up operation, "L" : Normal operation.
64	VDD	I	VDD	Positive power supply.

## CIRCUIT DESCRIPTION

### 2-4. Initial setting

#### 1) Function initial setting

Last channel memory ..... FM : 87.5MHz  
 ..... AM (K) : 530kHz  
 ..... AM (E) : 531kHz  
 Station name last channel memory/  
 station name preset channel memory ..... All blank  
 Tuning mode ..... Auto  
 Preset channel memory ..... Ch1~Ch20 all at FM 87.5MHz  
 Band ..... FM  
 1-10/11-20 ..... 1-10  
 Input selector ..... Tuner  
 Video monitor ..... VIDEO 1  
 Dolby surround ..... OFF  
 Equalizer ..... DEFEAT  
 TAPE 2 monitor ..... OFF  
 Muting ..... OFF  
 Power ..... OFF

#### 2) Microprocessor output port initial setting

Any figure in ( ) is a pin number.

SURROUND MUTE (17) ..... L  
 MONO (18) ..... L  
 EQ ON/OFF (19) ..... L  
 VIDEO1/2 (23) ..... H  
 POWER (24) ..... L  
 MUTE 1 (25) ..... H  
 MUTE 2 (26) ..... H  
 TAPE 1 (27) ..... H  
 VIDEO 1 (29) ..... H  
 VRDOWN (1) ..... L  
 VRUP (63) ..... L

The initial setting is performed in a following event :

1. When backup memory data is destroyed when reset is applied to the microprocessor.
2. When the power cord is plugged in to the AC wall outlet while pressing the TUNER key or MEMORY key.
3. When serial code "TEST : 71" is received during the test mode.

### 2-5. Test mode setting

#### 1) Method of entering the test mode

1. While pressing the TUNER key and VIDEO 1 key, plug the power cord to the AC wall outlet.
2. When the test mode is unengaged, sent serial code "71".

In either case of 1 or 2, when the test mode is entered, the FL tube display all lights.

#### 2) Method of canceling the test mode

1. Unplug the power cord from the AC wall outlet once.
2. Send the reset signal to the RESET pin or some other means to reset the microprocessor.
3. Send serial code "71". In this case, the microprocessor, when it receives serial code "71", engages the same state as when initial reset is applied. Thus, the RAM is once all cleared to enter the initial set state.

#### 3) Contents of test mode

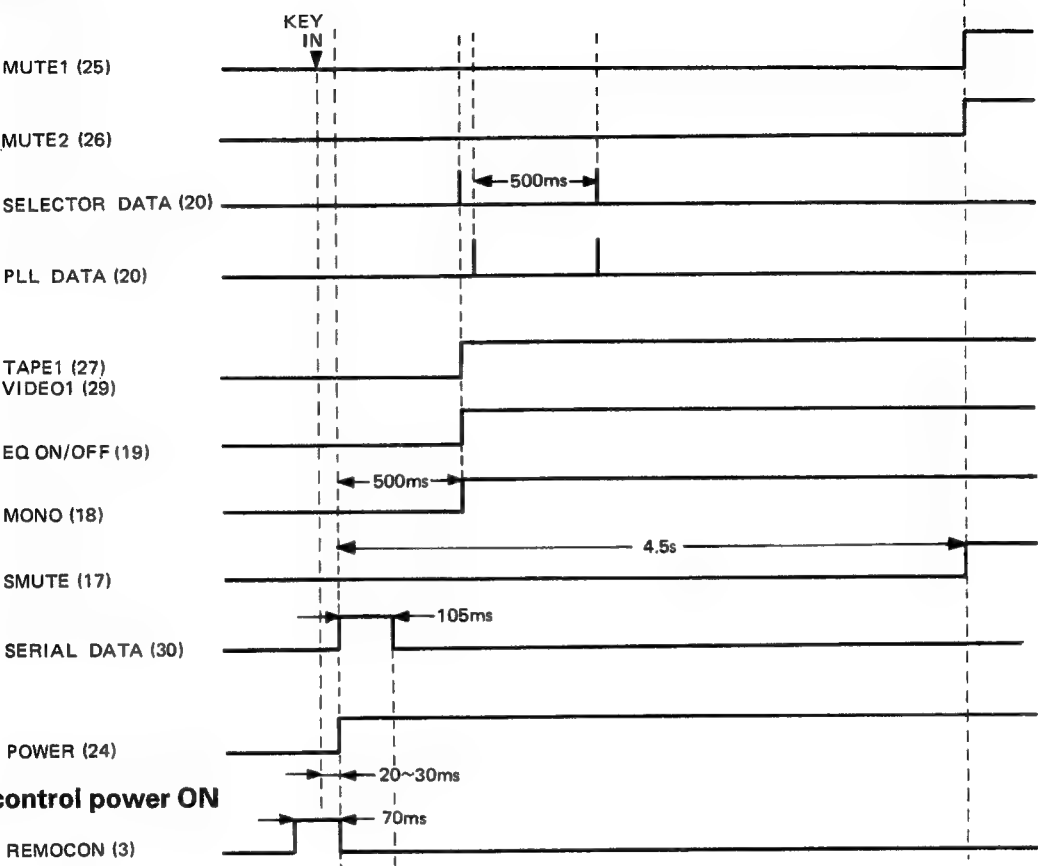
1. When the test mode is entered, the FL tube display all lights. This all lighting continues unless a effective remote control serial code or the test mode is canceled.
2. The test frequency is stored in memory for each preset channel. (For each frequency to be stored in memory, refer to its associated listing.)
3. When serial data is received, an operation different then the normal mode is performed. (About the operation of each code, refer to the serial test code table.) When a forbidden code is received, an uncontrolled run may occur, so that proper operation cannot be ensured.

CIRCUIT DESCRIPTION

2-6. Muting timing charts

(1) At power ON

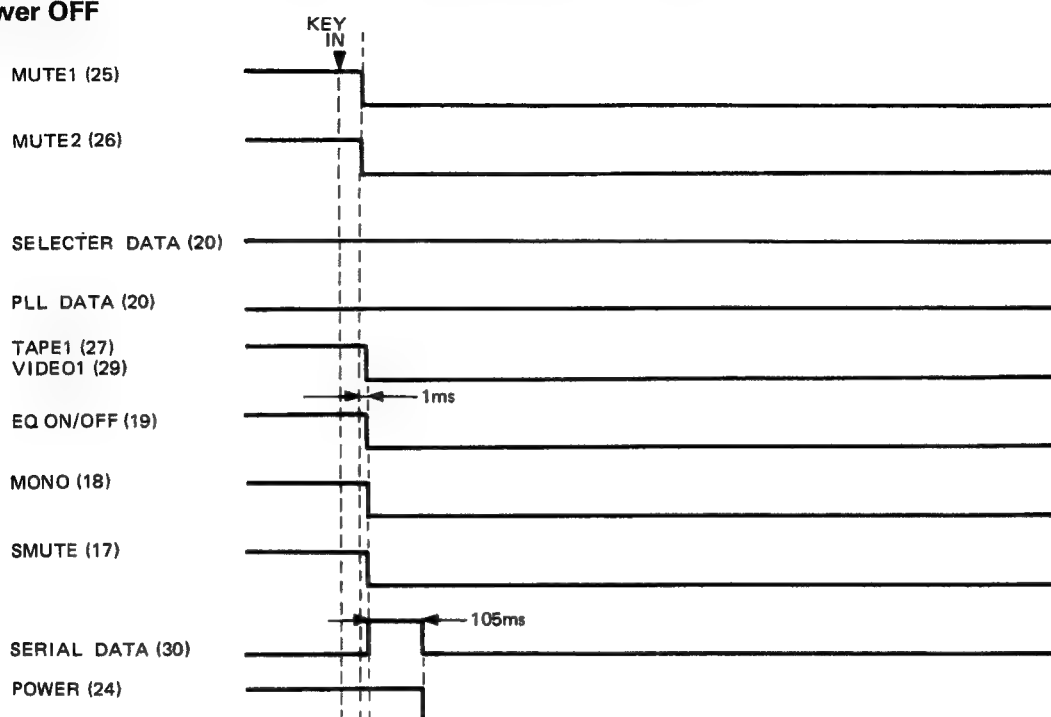
• At key power ON



• At remote control power ON

## CIRCUIT DESCRIPTION

- (2) At power OFF  
• At key power OFF



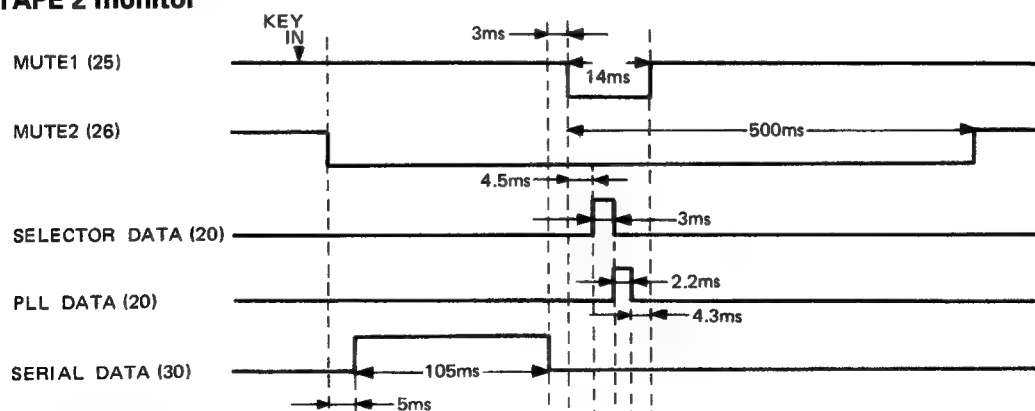
- At remote control power OFF



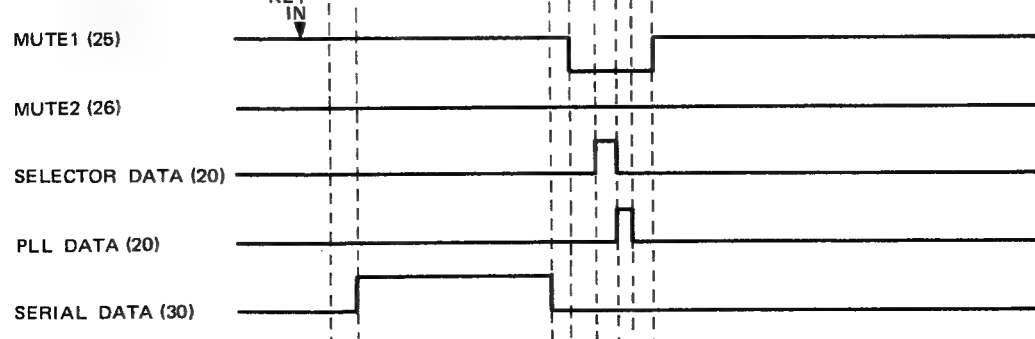
- At serial power OFF



- (3) At input selector selection  
• Except for TAPE 2 monitor

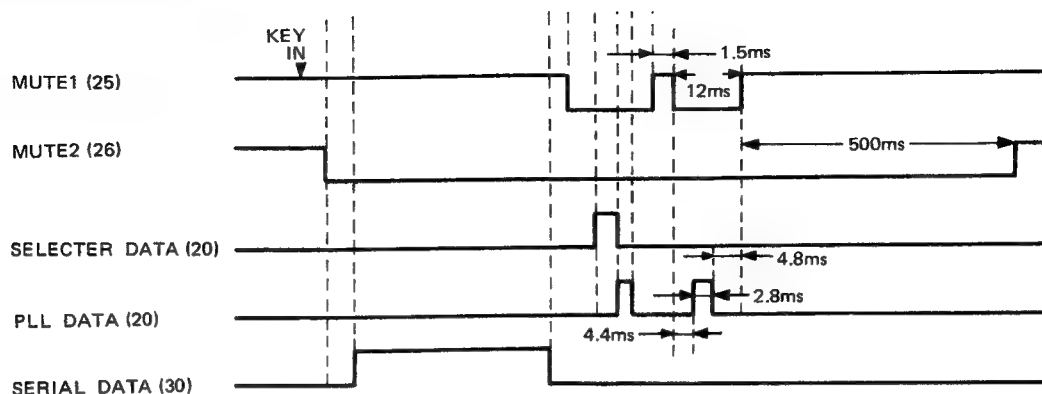


- During TAPE 2 monitor



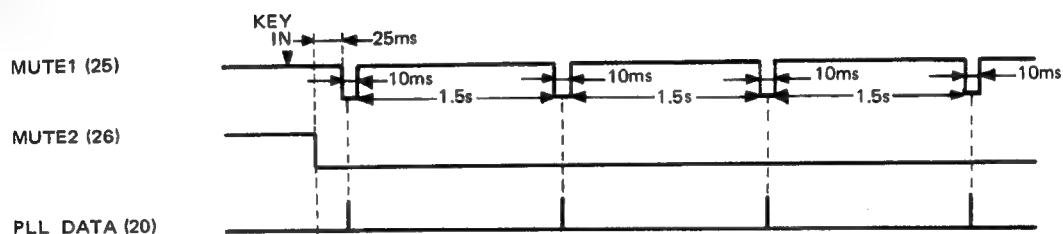
## CIRCUIT DESCRIPTION

### (4) At preset channel call

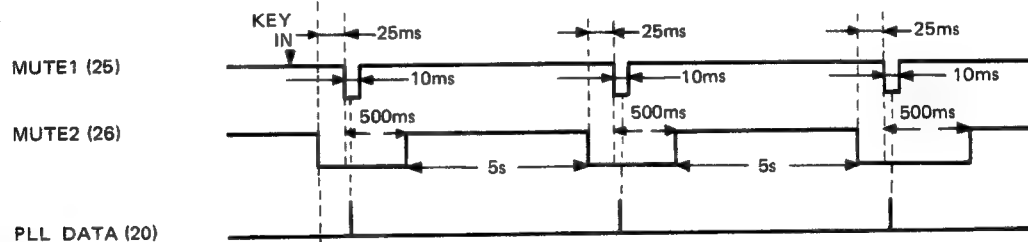


### (5) At preset channel scan

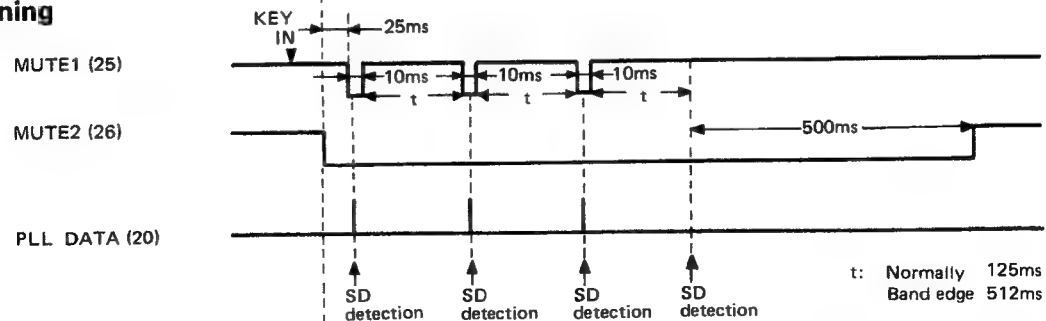
#### • Without station



#### • With station



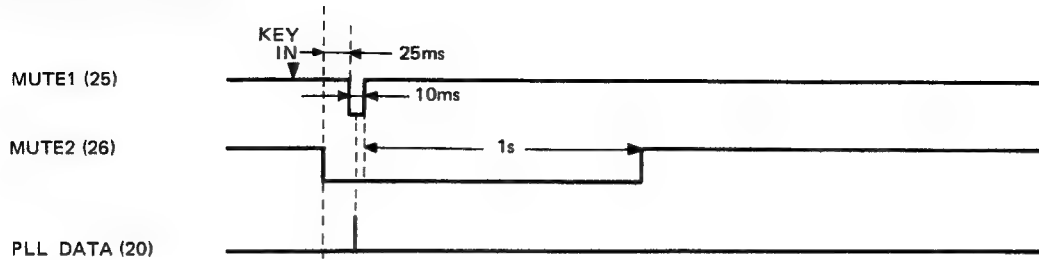
### (6) At auto tuning



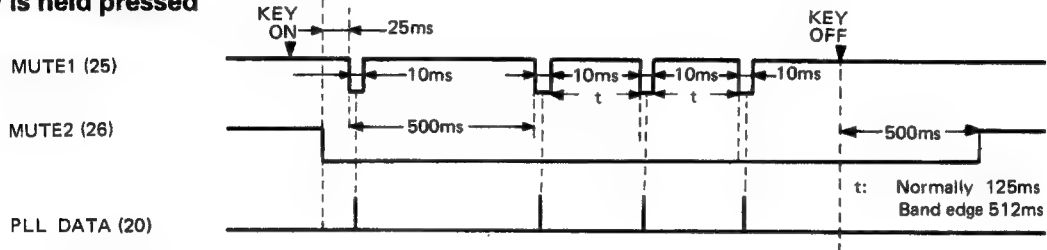
## CIRCUIT DESCRIPTION

### (7) At manual tuning

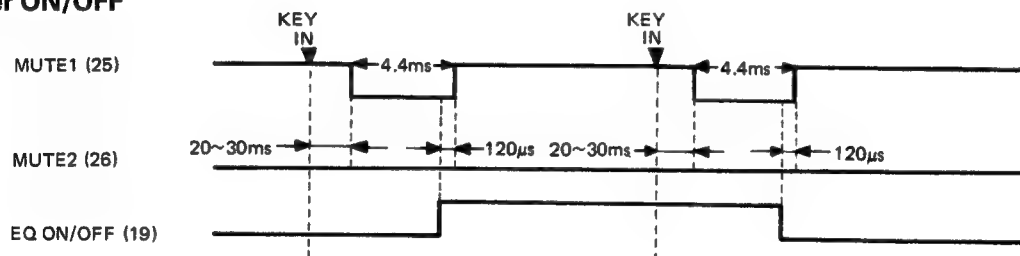
#### • When key is pressed simply



#### • When key is held pressed



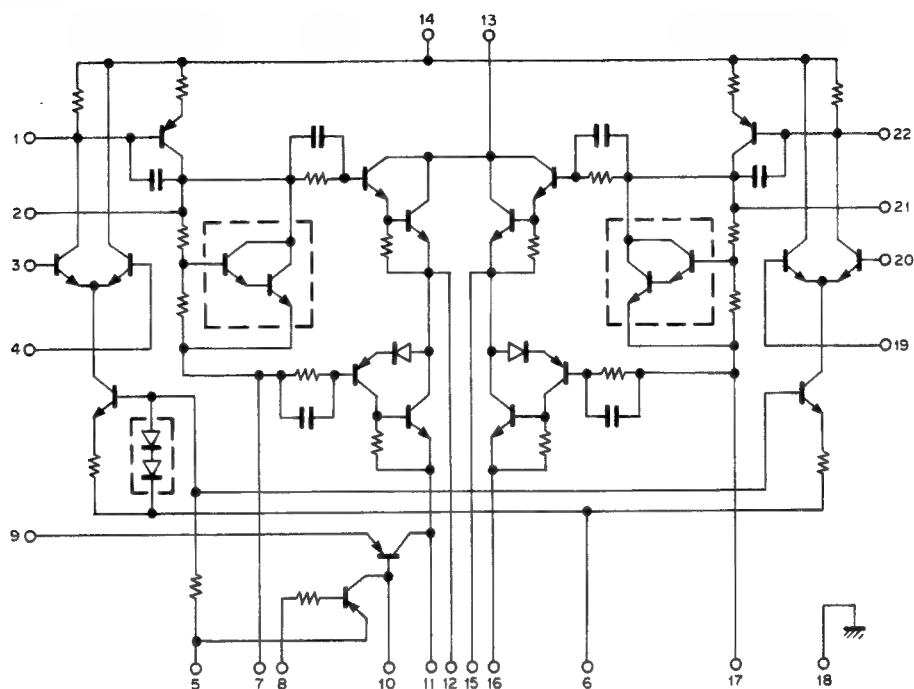
### (8) At equalizer ON/OFF



## CIRCUIT DESCRIPTION

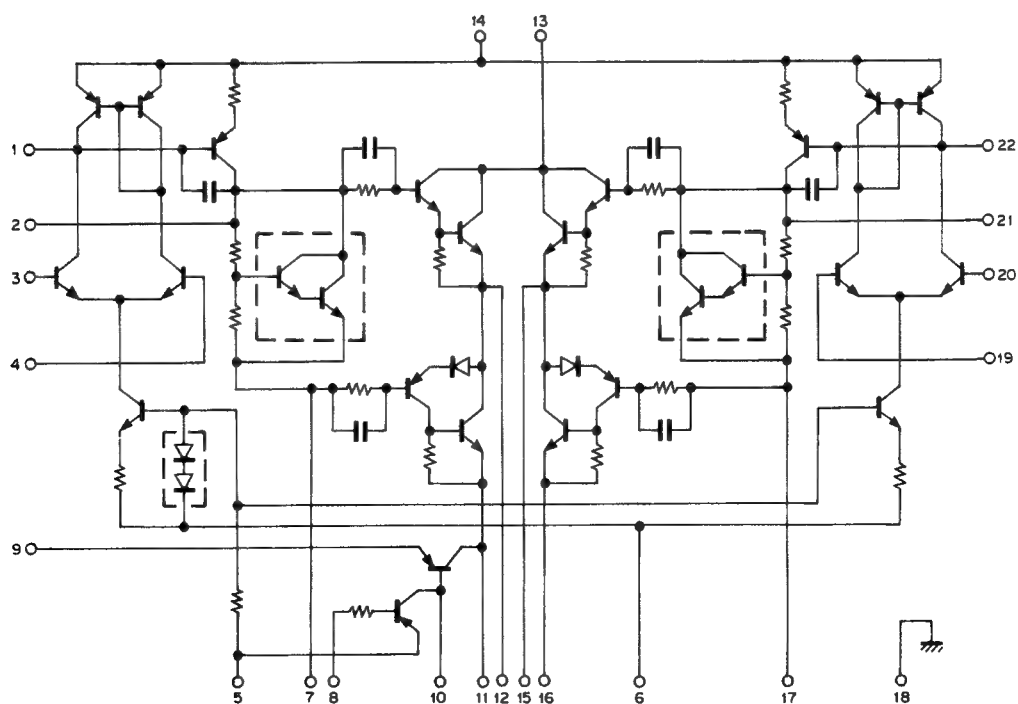
### 3. STK4201/2 : Main amplifier (X14-253X-XX : IC7) : K, P, U, UE, M, X Type

#### 3-1. Equivalent circuit



### 4. STK4201/5 : Main amplifier (X14-2532-71 : IC7) : E Type

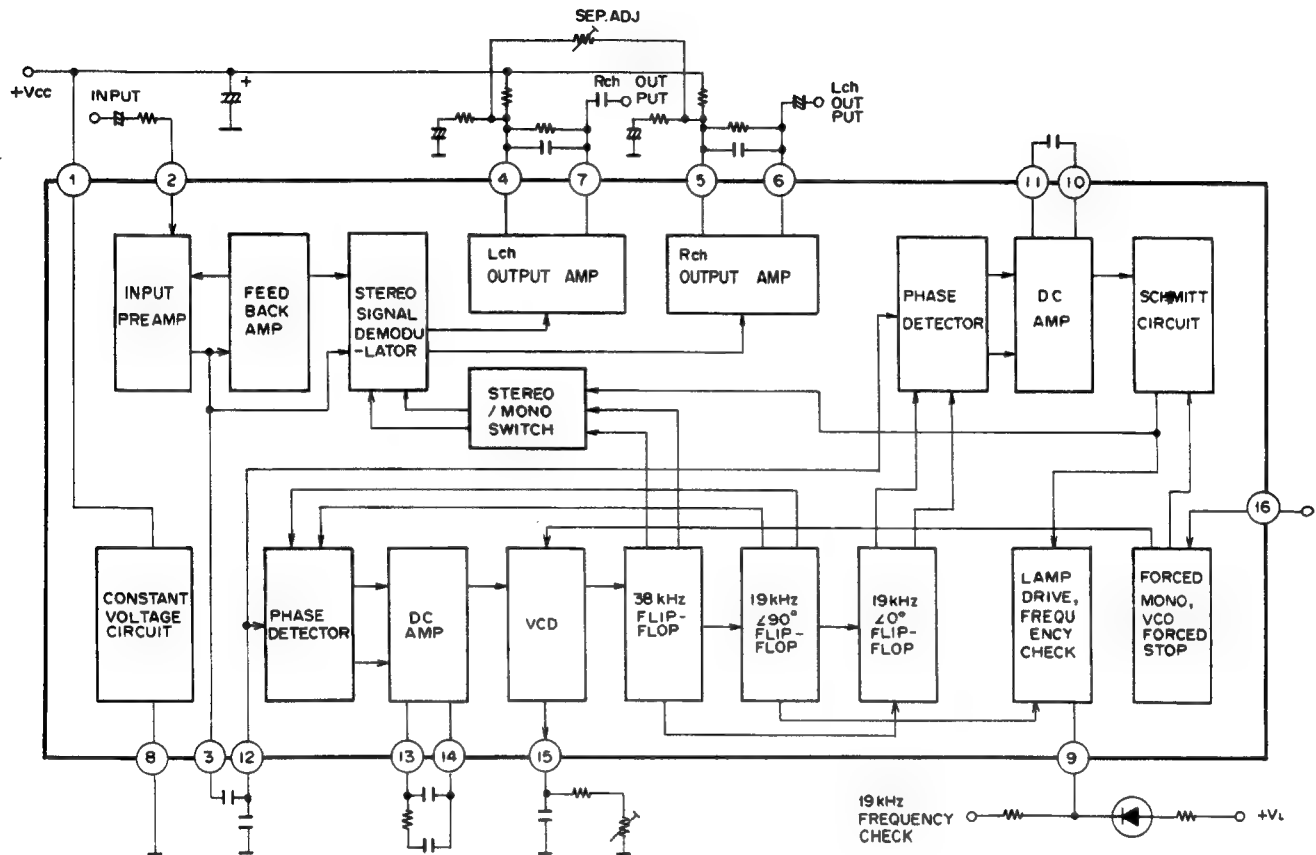
#### 4-1. Equivalent circuit



## CIRCUIT DESCRIPTION

### 5. AN7470 : FM MPX (X14-253X-XX : IC3)

#### 5-1. Equivalent block diagram



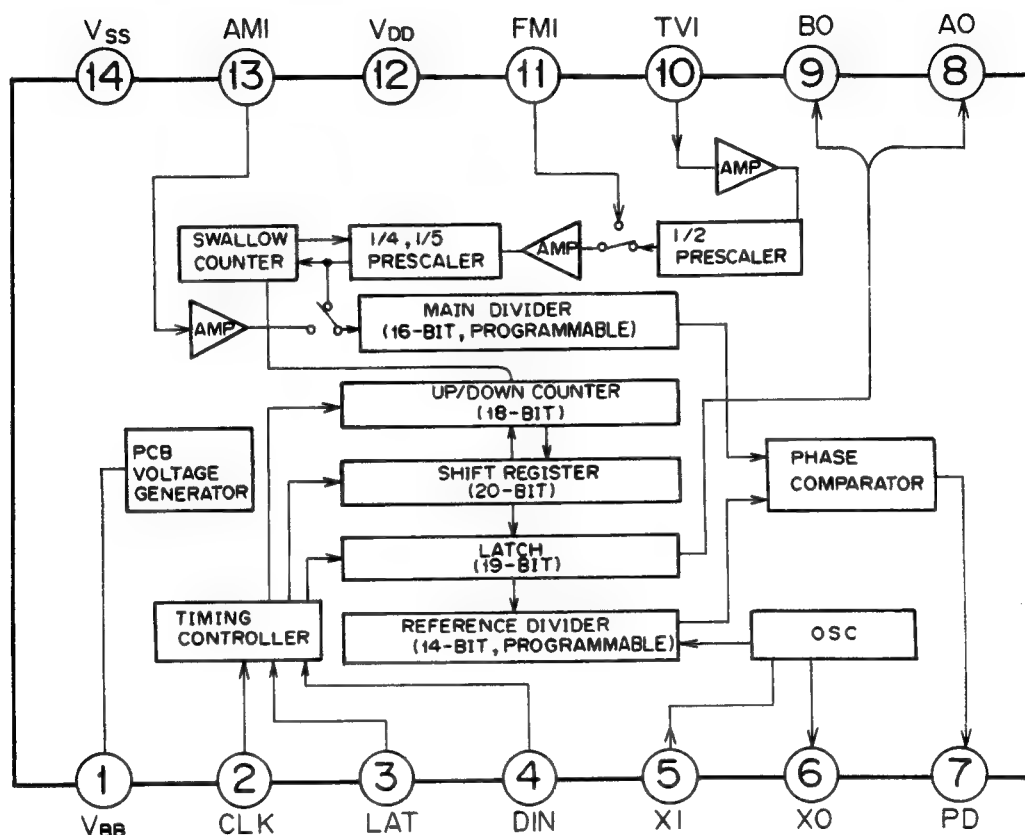
#### 5-2. Terminal connection and functions

Terminal No.	Connection/Function
1	Supply voltage (+Vcc)
2	Stereo composite signal, input terminal
3	Input preamp, output terminal
4	L CH output amp, feedback terminal
5	R CH output amp, feedback terminal
6	R CH output amp, output terminal
7	L CH output amp, output terminal
8	Grounding terminal
9	Stereo display lamp drive and 19 kHz frequency check terminal
10	Stereo signal detector circuit, low-pass filter terminal
11	Stereo signal detector circuit, low-pass filter terminal
12	PLL circuit, input terminal
13	PLL circuit, low-pass filter terminal
14	PLL circuit, low-pass filter terminal
15	VCO freerun oscillation frequency adjustment terminal
16	Forced mono/forced VCO oscillation stop terminal

# CIRCUIT DESCRIPTION

## 6. CX7925B : PLL (X14-253X-XX : IC2)

### 6-1. Block diagram and terminal configuration diagram



### 6-2. Terminal description

Terminal No.	Symbol	Terminal Description
1	VBB	PCB terminal (Connect a 0.01 $\mu$ F capacitor between the GND).
2	CLK	Input terminal for the clock used for 20-bit serial data input (Shifted at the rise).
3	LAT	Input terminal for the shift register input data latch signal (shifted at the rise) and, at the same time, for the Up/Down clock (status changed at the rise).
4	DIN	Data input terminal, also the Up/Down mode switching terminal (Up mode with "H" level, Down mode with "L" level).
5	XI	Connection terminals for the reference signal generator X'tal oscillator.
6	XO	(Max. 13 MHz, standard 4.0 MHz)
7	PD	Phase comparator output terminal (3-state).
8	AO	External control signal output terminal/Unlock signal output terminal (E/E MOS push-pull).
9	BO	External control signal output terminal/data check terminal (E/E MOS push-pull).
10	TVI	High-frequency signal input terminal (300 MHz or 350 MHz max.). With 1/2 prescaler.
11	FMI	High-frequency signal input terminal (150 MHz or 180 MHz max.).
12	VDD	Power supply (+5V).
13	AMI	High-frequency signal input terminal (40 MHz or 50 MHz max.).
14	VSS	Grounding terminal

## ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
<b>FM SECTION</b> Unless otherwise specified, the individual switches should be set as following: SELECTOR: FM MODE: FM MODE/AUTO							
1	BAND EDGE (1)	—	Connect a DC voltmeter between TP 6 (VT) and TP 5 (GND).	87.5MHz	L7 (Front end)	2.5V	(a)
2	BAND EDGE (2)	—	Connect a DC voltmeter between TP 6 (VT) and TP 5 (GND).	108.0MHz	TC1 (Front end)	8.0V	(a)
Repeat alignments 1 and 2 several times.							
3	RF ALIGNMENT	(A) 98.0MHz 1kHz, $\pm 75$ kHz dev	(B)	MONO 98.0MHz	L2-4 (Front end)	Maximum amplitude and symmetry of the oscilloscope display.	
4	DISCRIMINATOR	(A) 98.0MHz 1kHz, $\pm 75$ kHz dev 60dB $\mu$ (ANT input)	Connect a DC voltmeter between TP 3 and TP 4.	MONO 98.0MHz	L14	0V	(b)
5	VCO	(A) 98.0MHz 0 dev 60dB $\mu$ (ANT input)	Connect a 330k $\Omega$ resistor to TP 1. Connect a frequency counter to the resistor via an AC voltmeter.	98.0MHz	VR 3	76.00kHz	(c)
6	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, $\pm 68.25$ kHz dev Selector: L or R 60dB $\mu$ (ANT input)	(B)	98.0MHz	L8 (Front end)	Minimum distortion. (L or R)	
7	SEPARATION	(C) 98.0MHz 1kHz, $\pm 68.25$ kHz dev Selector: L or R Pilot: $\pm 6.75$ kHz dev 60dB $\mu$ (ANT input)	(B)	98.0MHz	VR4	Minimum crosstalk. A compromise adjustment may be required if left-to-right and right-to-left separations are unequal.	
8	TUNING LEVEL	(A) 98.0MHz 0 dev 18dB $\mu$ (ANT input)	—	98.0MHz	VR1	Adjust VR1 so that FL1(TUNED) goes off. Then, adjust VR1 and stop at the point where FL1(TUNED) goes on.	
<b>AM SECTION</b> Keep the AM loop antenna installed. SELECTOR: AM							
(1)	BAND EDGE (1)	—	Connect a DC voltmeter between TP 6 (VT) and TP 5 (GND).	530kHz (531kHz)	L11	1.5V	(a)
(2)	BAND EDGE (2)	—	Connect a DC voltmeter between TP 6 (VT) and TP 5 (GND).	1610kHz (1602kHz)	TC 3	8.0V	(a)
Repeat alignments (1) and (2) several times.							
(3)	RF ALIGNMENT (1)	(D) 630kHz 400Hz, 30% mod	(B)	630kHz	L10	Maximum amplitude and symmetry of the oscilloscope display.	
(4)	RF ALIGNMENT (2)	(D) 1440kHz 400Hz, 30% mod	(B)	1440kHz	TC2	Maximum amplitude and symmetry of the oscilloscope display.	
Repeat alignments (3) and (4) several times.							
(5)	TUNING LEVEL	(A) 1000(999)kHz 0 dev 28 dB $\mu$ (ANT input)	—	1000(999)kHz	VR 2	Adjust VR 2 so that FL1(TUNED) goes off. Then, adjust VR4 and stop at the point where FL1(TUNED) goes on.	
(6)	IF TRANSFORMER	(D) 1000kHz 20dB $\mu$ (ANT input)	(B)	—	L13 (X14)	Maximum amplitude and symmetry of the oscilloscope display.	

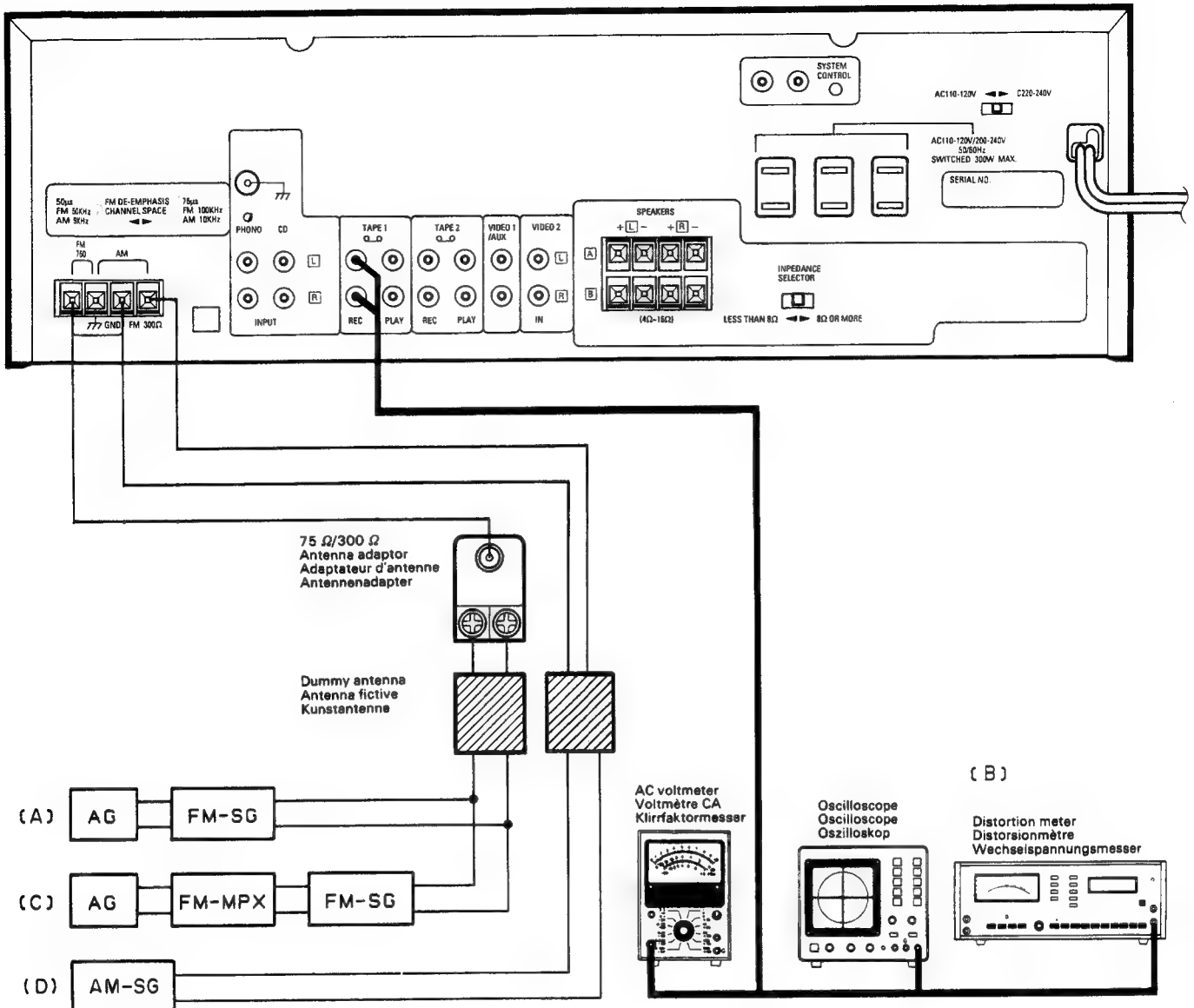
## REGLAGES

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU TUNER	POINT DE L'ALIGNEMENT	ALIGNER POUR	FIG.
SECTION MF							
Sauf en cas d'indications spéciales, régler chaque commutateur comme suit: SELECTEUR: FM MODE: FM MODE/AUTO							
1	BORD DE BANDE (1)	—	Relier un voltmètre CC entre les TP 6 (VT) et TP 5 (GND).	87,5MHz	L7 (Contrôle)	2,5V	(a)
2	BORD DE BANDE (2)	—	Relier un voltmètre CC entre les TP 6 (VT) et TP 5 (GND).	108,0MHz	TC1 (Contrôle)	8,0V	(a)
Répéter les points 1 et 2 plusieurs fois.							
3	ALIGNEMENT HT	(A) 98,0MHz 1kHz.±75kHz dév	(B)	MONO 98,0MHz	L 2-4 (Contrôle)	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
4	DISCRIMINATEUR	(A) 98,0MHz 1kHz.±75kHz dév 60dBμ(Entrée ANT)	Relier un voltmètre CC entre les TP 3 et TP 4	MONO 98,0MHz	L 14	0V	(b)
5	VCO	(A) 98,0MHz 0 dév 60dBμ(Entrée ANT)	Relier une résistance de 330kΩ à TP1 Raccorder un compteur de fréquence à une résistance par l'intermédiaire d'un voltmètre CA.	98,0MHz	VR 3	76,00kHz	(c)
6	DISTORSION (STEREO)	(C) 98,0MHz 1kHz.±68,25kHz dév Selection:L ou R 60dBμ(Entrée ANT)	(B)	98,0MHz	L8 (Contrôle)	Distorsion minimale. (L ou R)	
7	SEPARATION	(C) 98,0MHz 1kHz.±68,25kHz dév Selection:L ou R Signal pilote: ±6,75kHz dév 60dBμ(Entrée ANT)	(B)	98,0MHz	VR 4	Diaphonie minimale. Un compromis de réglage peut être nécessaire si les séparation de gauche à droite et droite à gauche sont inégales.	
8	NIVEAU D' ACCORDER	(A) 98,0MHz 0 dév 18dBμ(Entrée ANT)	—	98,0MHz	VR 1	Ajuster VR1 que FL1(TUNED) est non allumé. Alors, ajuster VR1 et arrêter le mouvement de VR1 au moment où le FL1(TUNED)s'allume.	
SECTION MA							
Laisser l'antenne bouche MA installée. SELECTEUR: AM							
(1)	BORD DE BANDE (1)	—	Relier un voltmètre CC entre les TP 6 (VT) et TP 5 (GND).	530kHz (531kHz)	L 11	1,5V	(a)
(2)	BORD DE BANDE (2)	—	Relier un voltmètre CC entre les TP 6 (VT) et TP 5 (GND).	1610kHz (1602kHz)	TC 3	8,0V	(a)
Répéter les points (1) et (2) plusieurs fois.							
(3)	ALIGNEMENT HT (1)	(D) 630kHz 400Hz. 30% mod	(B)	630kHz	L 10	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
(4)	ALIGNEMENT HT (2)	(D) 1440kHz 400Hz. 30% mod	(B)	1440kHz	TC 2	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
Répéter les points (3) et (4) plusieurs fois.							
(5)	NIVEAU D' ACCORDER	(A) 1000(999)kHz 0 dév 25 dBμ(Entrée ANT)	—	1000(999)kHz	VR 2	Ajuster VR 2 que FL1(TUNED) est non allumé. Alors, ajuster VR4 et arrêter le mouvement de VR4 au moment où le FL1(TUNED)s'allume.	
(6)	TRANSFORMATEUR F.I.	(D) 1000KHZ 200Bμ(Entrée ANT)	(B)	—	L13 (X14)	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	

## ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	TUNER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
UKW-EMPfangSABTEILUNG Außer wenn anders angegeben, die verschiedenen Schalter wie folgt einstellen: SELECTOR: FM MODE:FM MODE/AUTO							
1	BANDKANTE (1)	—	Einen Gleichspannungsmesser zwischen TP 6 (VT) und TP 5 (GND) anschließen.	87,5MHz	L7 (Eingangsstufe)	2,5V	(a)
2	BANDKANTE (2)	—	Einen Gleichspannungsmesser zwischen TP 6 (VT) und TP 5 (GND) anschließen.	108,0MHz	TC1 (Eingangsstufe)	8,0V	(a)
Abstimmungen 1 und 2 mehrere Male wiederholen.							
3	EMPFANGS-BEREICH-ABSTIMMUNGEN	(A) 98,0MHz 1kHz.±75kHz Hub	(B)	MONO 98,0MHz	L2-4 (Eingangsstufe)	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
4	DISKRIMINATOR	(A) 98,0MHz 1kHz.±75kHz Hub 60dBμ(Ant-Eingang)	Einen Gleichspannungsmesser zwischen TP 3 und TP 4 anschließen.	MONO 98,0MHz	L14	0V	(b)
5	SPANNUNGS-GEREGELTER OSZILLATOR	(A) 98,0MHz 0 Hub 60dBμ(Ant-Eingang)	Einen 330kΩ Widerstand zu TP1 anschließen. Einen Frequenzzähler über einen Wechselspannungsmesser an den Widerstand anschließen.	98,0MHz	VR 3	76,00kHz	(c)
6	KLIRRFaktor (STEREO)	(C) 98,0MHz 1kHz.±68,25kHz Hub Wähler: L oder R 60dBμ(Ant-Eingang)	(B)	98,0MHz	L8 (Eingangsstufe)	Minimal Klirrfaktor. (L oder R)	
7	STEREO KANAL TRENNUNG	(C) 98,0MHz 1kHz.±68,25kHz Hub Wähler: L oder R Pilotten: ±6,75kHz Hub 60dBμ(Ant-Eingang)	(B)	98,0MHz	VR 4	Minimales Übersprechen. Eine Ausgleichregelung kann notwendig sein, falls links-zu-rechts und rechts-zu-links. Trennungen ungleich sind.	
8	ABSTIMM PEGEL	(A) 98,0MHz 0 Hub 18dBμ(Ant-Eingang)	—	98,0MHz	VR1	Den Pegelwiderstand VR1 so einstellen, daß der FL1(TUNED)anzeiger nicht leuchtet. Dann der Pegelwiderstand aufdrehen, und den VR1 Halt geben wobei der FL1(TUNED)anzeiger leuchtet wird.	
MW-EMPfangSABTEILUNG Die MW Rahmenantenne angebracht lassen. SELECTOR: AM							
(1)	BANDKANTE (1)	—	Einen Gleichspannungsmesser zwischen TP 6 (VT) und TP 5 (GND) anschließen.	530kHz (531kHz)	L11	1,5V	(a)
(2)	BANDKANTE (2)	—	Einen Gleichspannungsmesser zwischen TP 6 (VT) und TP 5 (GND) anschließen.	1610kHz (1602kHz)	TC 3	8,0V	(a)
Abstimmungen (1) und (2) mehrere Male wiederholen.							
(3)	HF-ABGLEICH (1)	(D) 630kHz 400Hz.30% mod	(B)	630kHz	L10	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
(4)	HF-ABGLEICH (2)	(D) 1440kHz 400Hz.30% mod	(B)	1440kHz	TC2	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
Abstimmungen (3) und (4) mehrere Male wiederholen.							
(5)	ABSTIMM PEGEL	(A) 1000(999)kHz 0 Hub 26 dBμ(Ant-Eingang)	—	1000(999)kHz	VR 2	Den Pegelwiderstand VR2 so einstellen, daß der FL1(TUNED)anzeiger nicht leuchtet. Dann der Pegelwiderstand aufdrehen, und den VR4 Halt geben wobei der FL1(TUNED)anzeiger leuchtet wird.	
(6)	ZF-ÜBERTRAGER	(D) 1000kHz 20dBμ(Ant-Eingang)	(B)	—	L13 (X14)	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	

## ADJUSTMENT/REGLAGE/ABGIEICH



## VOLTAGE TABLE

### X13-619X-XX

#### IC1

4	11.9V
11	-12.4V

#### IC2

4	11.9V
11	-12.4V

#### IC3

4	11.9V
11	-12.4V

#### IC4

1	5.6V
2	0V
3	5.6V

#### IC5

32	0V
57	-30V
58	5V
64	5V

#### IC6

1	0V
2	UP5V
5	UP3.2V
6	DOWN3.2V
10	DOWN5V

#### IC9

4	-12.4V
8	11.4V

	B	C	E
Q1	0V	4.8V	-
Q2	-24.6V	4.9V	-24.7V
Q4	0.6V	9.8V	0.2V
Q5	2.1V	0.2V	0V
Q6	45.6V	-28.4V	5.6V
Q11	6.2V	12.7V	5.7V
Q12	-30.6V	-48V	-
Q13	0V	0.3V	0V

### X14-253X-XX

#### IC1

1	2.4V
2	2.4V
3	2.4V
4	0V
5	9.9V
6	9.9V
7	9.9V
8	4.2V
9	3.8V
10	3.3V
11	1.4V
12	1.5V
13	0V
14	0V
15	2.4V
16	1.4V
17	0V
18	0V
19	0V
20	3.9V
21	3.9V
22	2.8V

#### IC2

1	2.4V
2	0V
3	0V
4	0V
5	2V
6	2.4V
7	1.2V
8	3.7V
9	0V
11	2.3V
12	5.1V
13	4.5V
14	0V

#### IC3

1	11.3V
2	2.5V
3	6V
4	9.2V
5	9.2V
6	3.8V
7	3.6V
9	11.2V
10	2.6V
11	2.6V
12	2.6V
13	2.6V
14	2.6V
15	4.4V
16	4.1V

#### IC4

4	11.9V
8	-12.4V

#### IC5

10	-12.4V
11	5.5V
14	0V
15	6.8V
16	6.8V
17	6.8V
18	6.8V

#### IC6

1	0V
2	0V
8	-12.4V
16	11.9V

#### IC7

1	48.2V
2	0V
3	-0.3V
4	-0.3V
5	0V
6	0V
7	-1.3V
8	46.5V
9	-40.6V
10	-45.4V
11	-50.5V
12	0V
13	50.5V
14	49.7V
15	0V
16	-50.5V
17	-1.3V
18	0V
19	-0.3V
20	0.3V
21	1.2V
22	48.2V

#### IC8

O	11.9V
I	21.8V
G	-

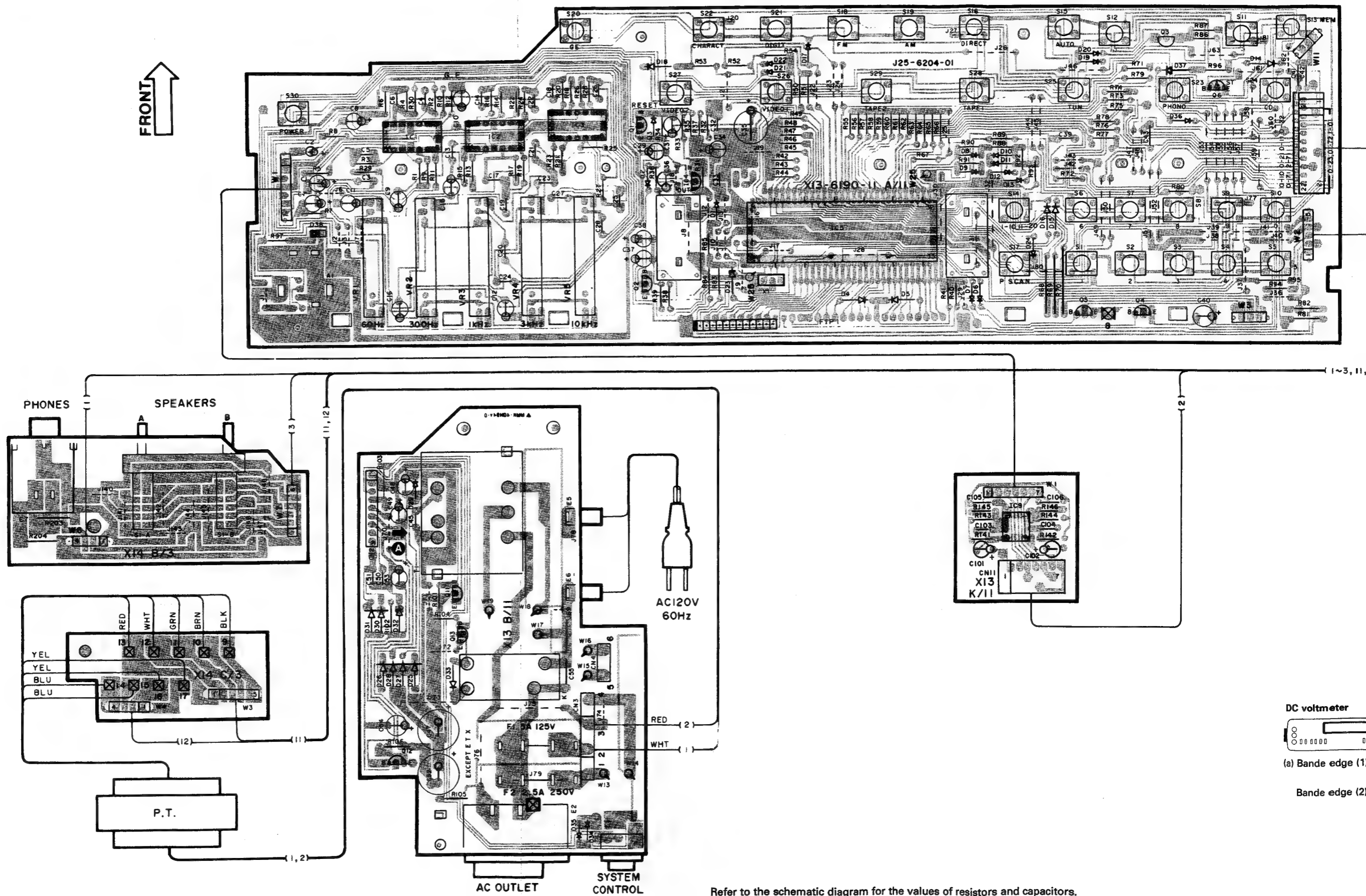
	B	C	E
Q2	0V	9.7V	-
Q3	4.5V	9.5V	3.8V
Q4	0.6V	-	-
Q6	2.6V	9.3V	1.8V
Q7	1.2V	2.5V	0.6V
Q8	0.6V	2.5V	-
Q10	50μ : 0.2V 75μ : 0.6V	50μ : 0.3V 75μ : 0V	50μ : 0.3V 75μ : 0V
Q11	50μ : 0.2V 75μ : 0.6V	50μ : 0V 75μ : 0V	50μ : 0V 75μ : 0V
Q12	3.7V	0V	-
Q13	0V	11.8V	11.9V
Q14	0V	11.9V	-
Q15	11.9V	0.07V	11.9V
Q17	-12.2V	0V	0V
Q18	-12.2V	0V	0V
Q19	4.9V	-	3.6V
Q20	-	0V	-0.4V
Q21	0V	0V	-0.4V
Q22	4.9V	-0.4V	3.6V
Q25	0V	-23V	-7.0V
Q26	-	8V	-48.7V
Q27	-	8V	-48.7
Q29	-6V	-13V	0V
Q30	-13V	-42.4V	-12.4V
Q31	-42.4V	-12.4V	-43V

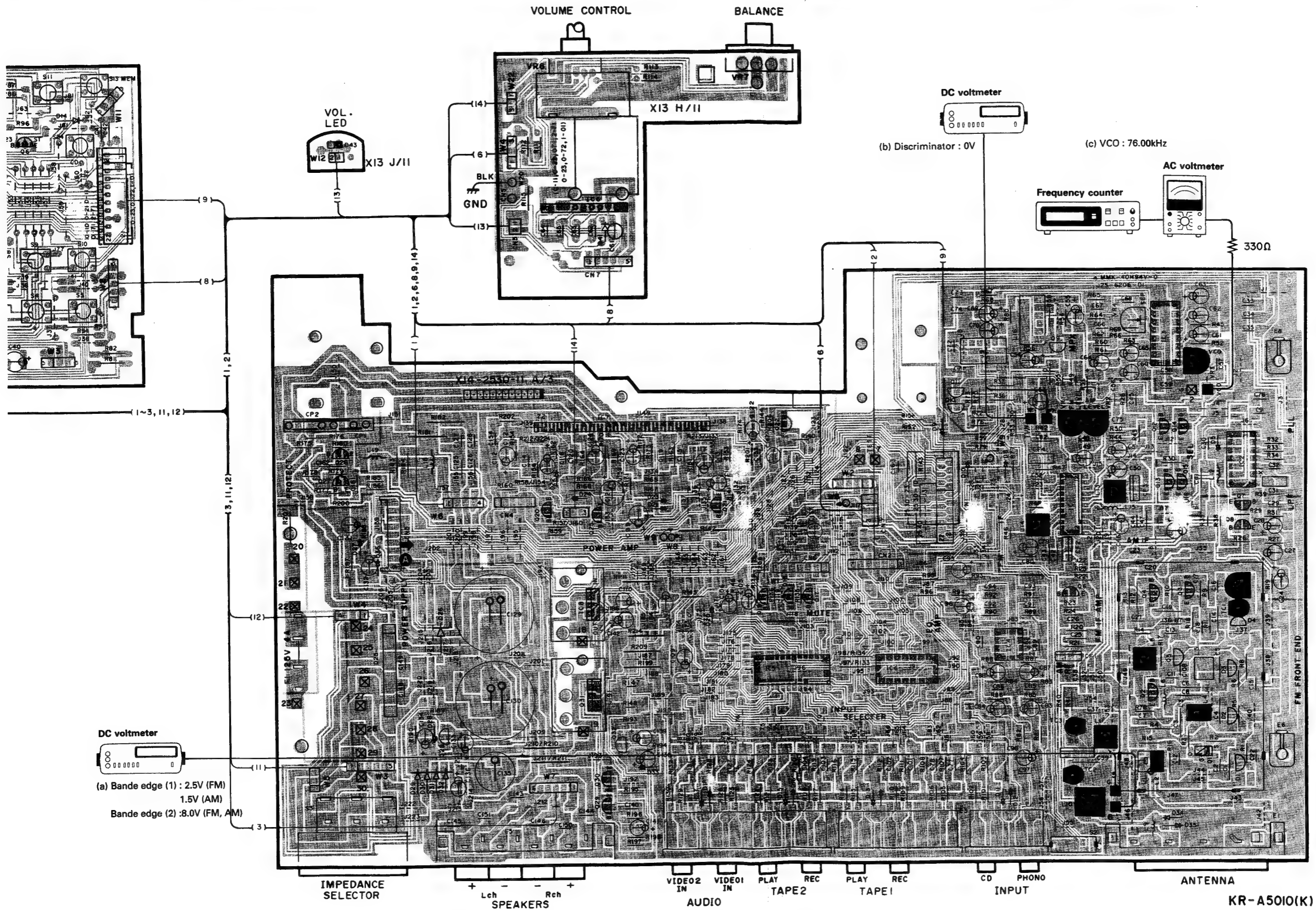
	G	D	S
Q1	-	9.7V	-
Q5	5.8V	-	-





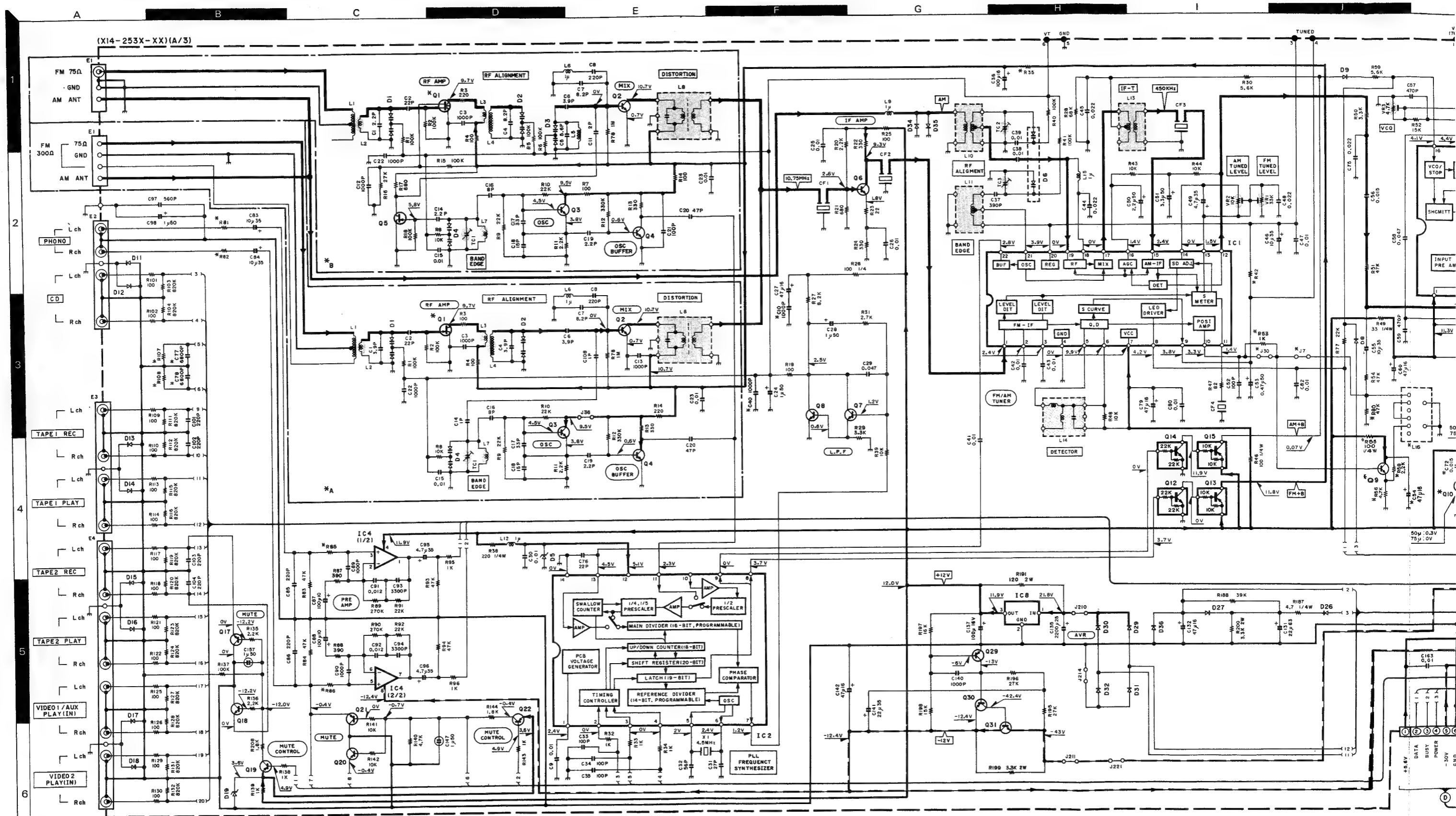
### PC BOARD (FOIL SIDE VIEW)



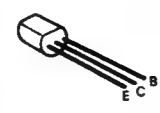


DC voltmeter

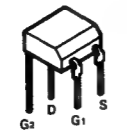
(a) Bande edge (1) : 2.5V (FM)  
1.5V (AM)  
Bande edge (2) : 0.8V (FM, AM)



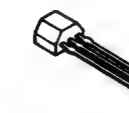
2SA733(A)  
2SA992  
2SC1845  
2SC1923  
2SC2003  
2SC2878  
2SC945(A)



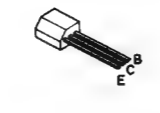
3SK73



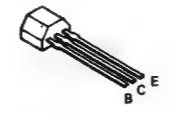
2SK161  
2SK241



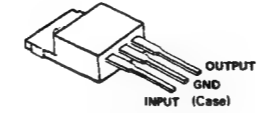
DTC124ES



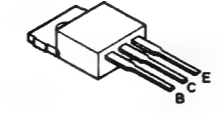
DTA114ES  
2SC1740S



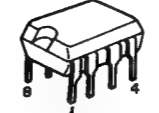
UPC7812HF



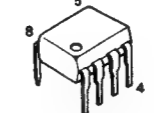
2SD1266



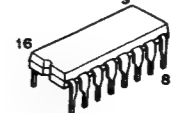
M5218P-A



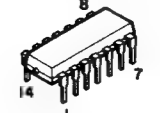
NJM4558D-A



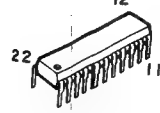
AN7470  
TC9215P

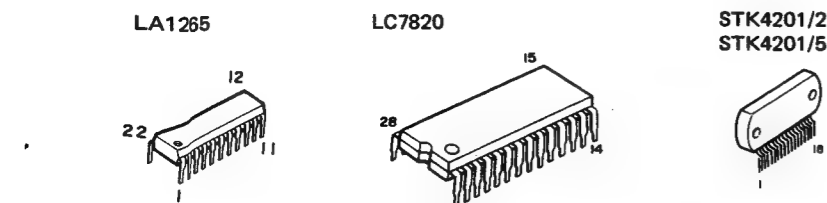
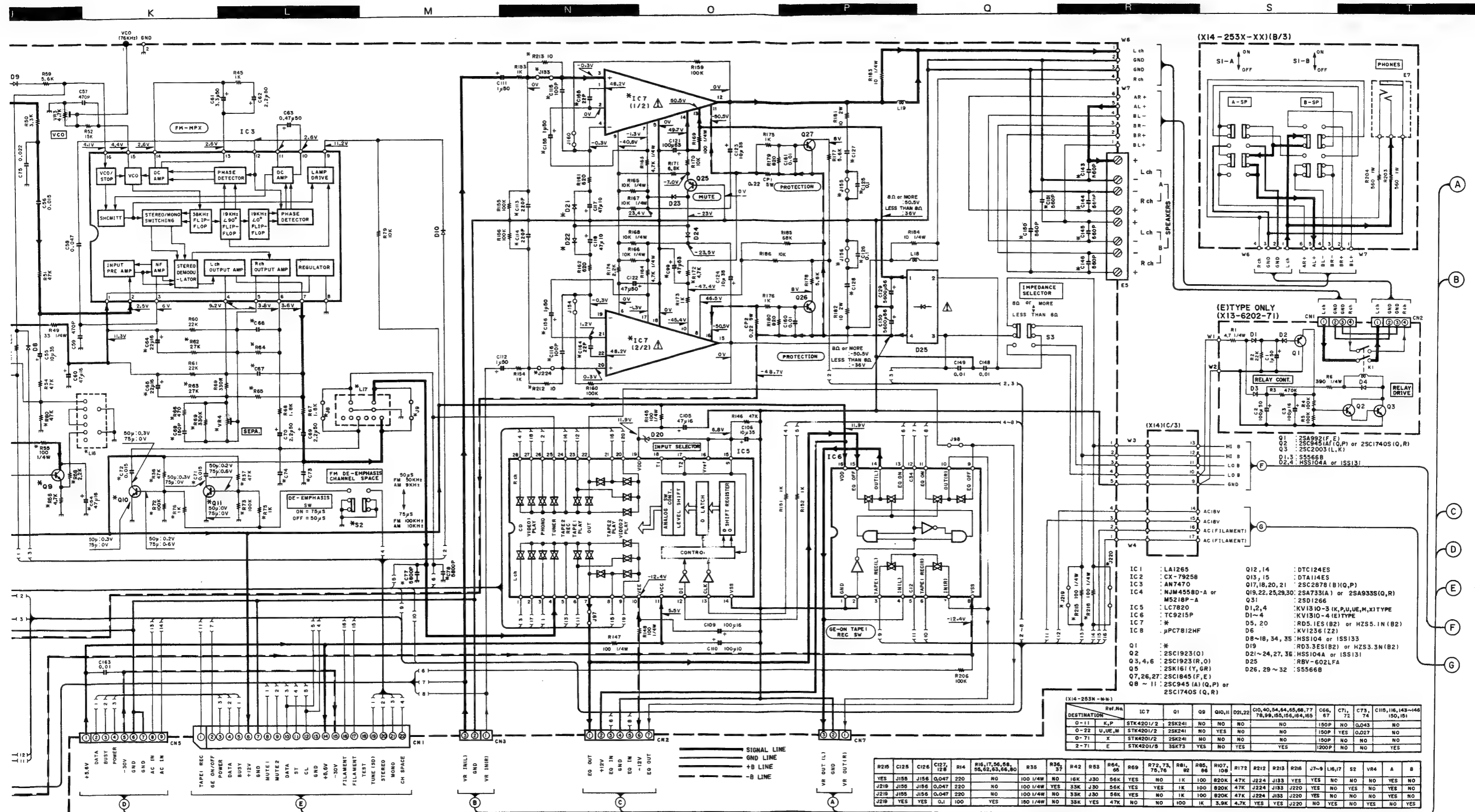


CX-7925B



LA1265





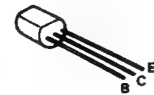
**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  $\Delta$  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

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- Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

• Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Voltmeter ohne Eingangssignal gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

**KR-A5010**  
KENWOOD

DTA124EN



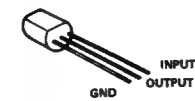
2SB772



CXP5016-330S



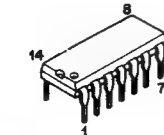
PST529C



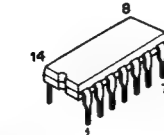
LB1641



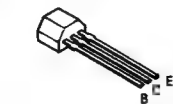
NJM2058D



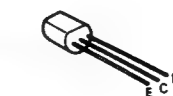
AN6554



2SC1740S



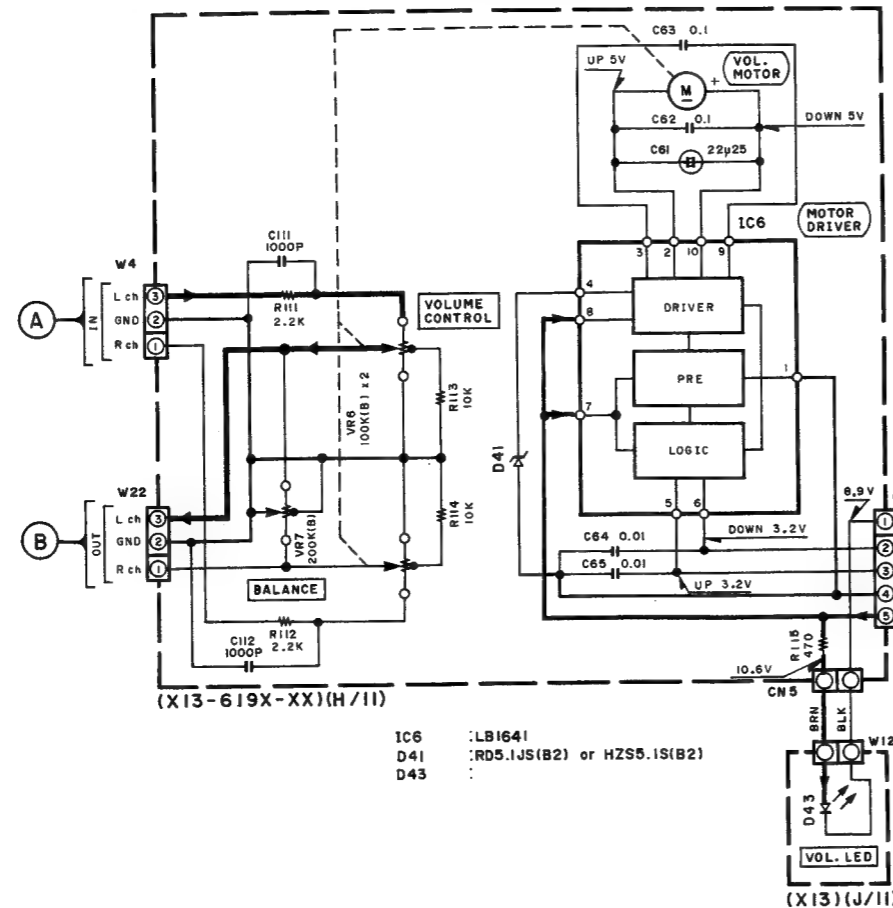
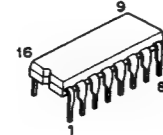
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2SA733(A)  
2SC2003  
2SC945(A)  
2SC2320



M5218P

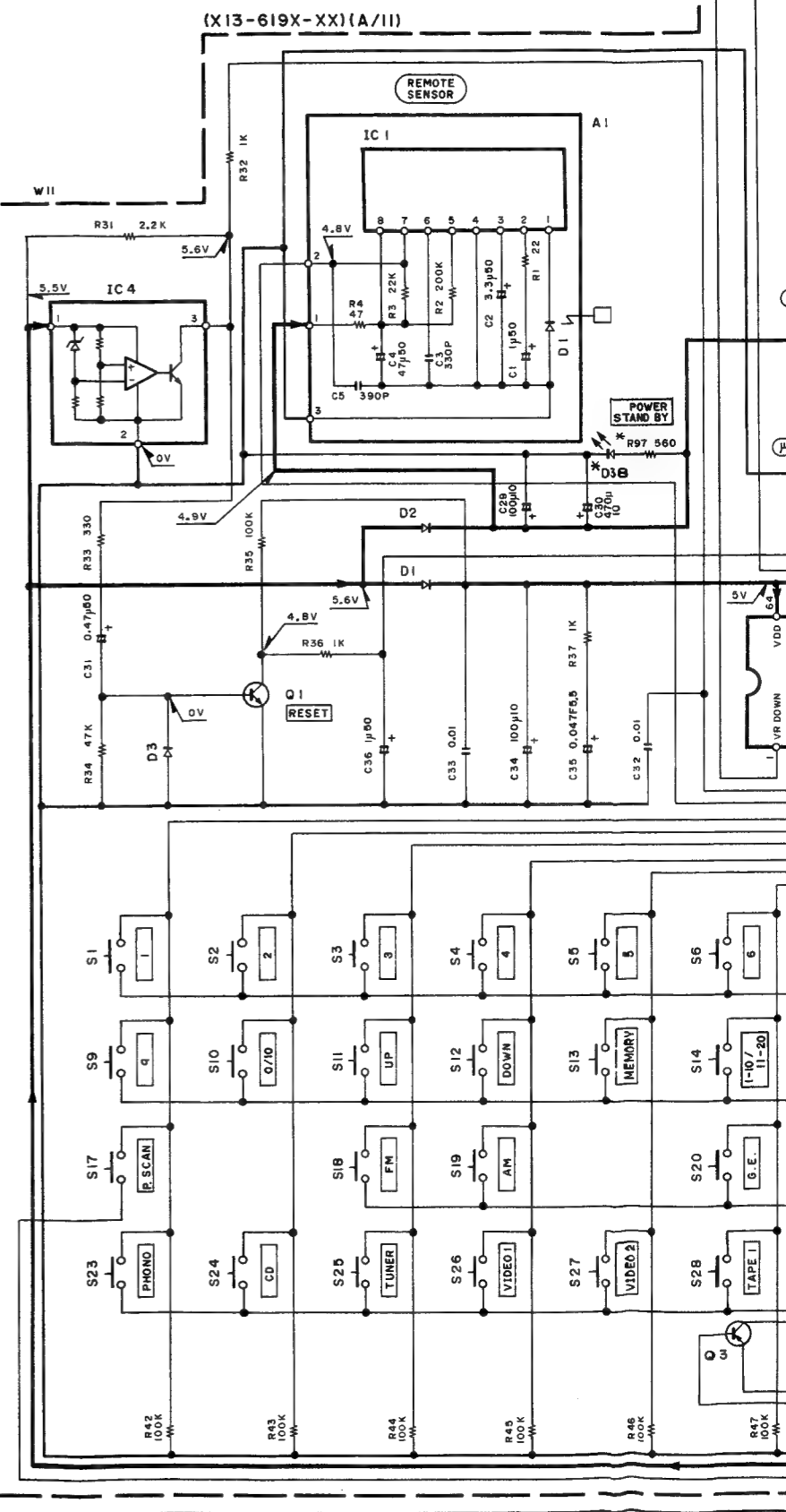
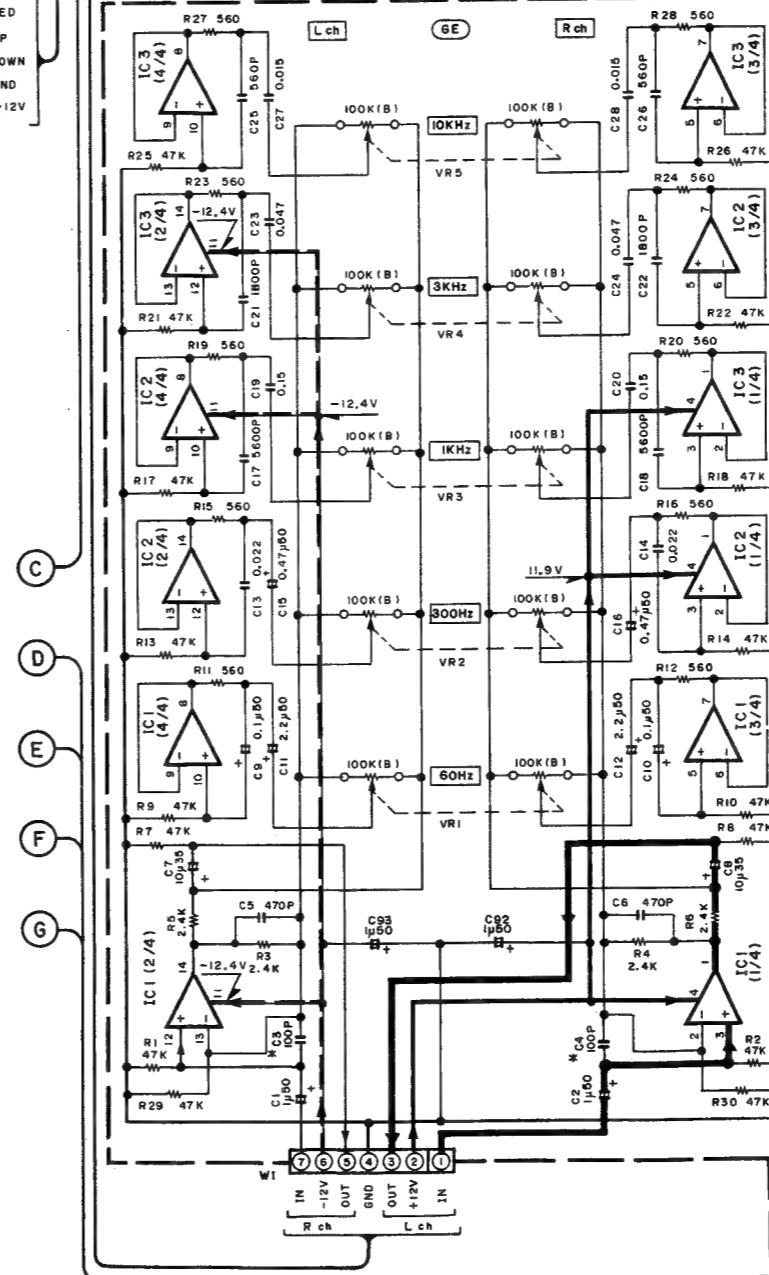
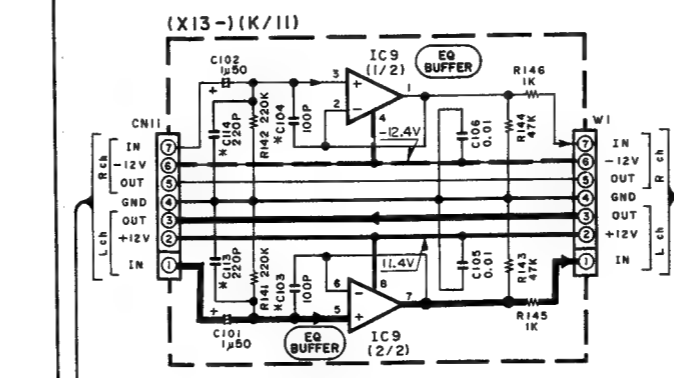


UPC4574C



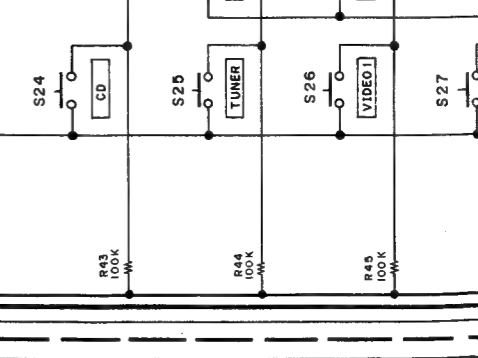
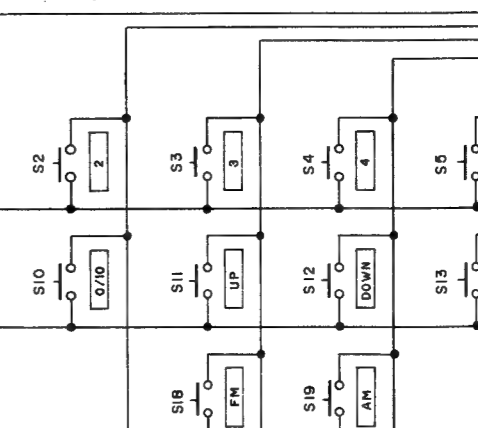
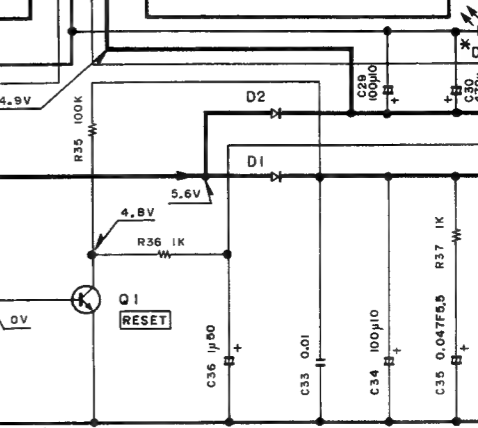
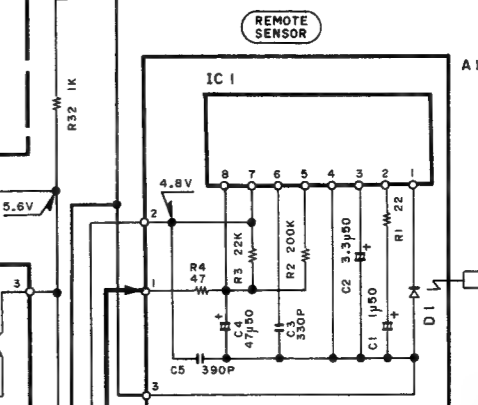
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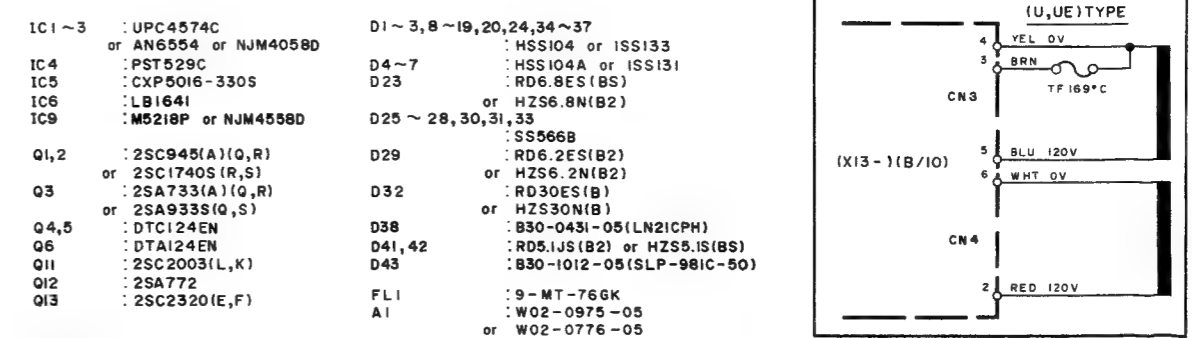
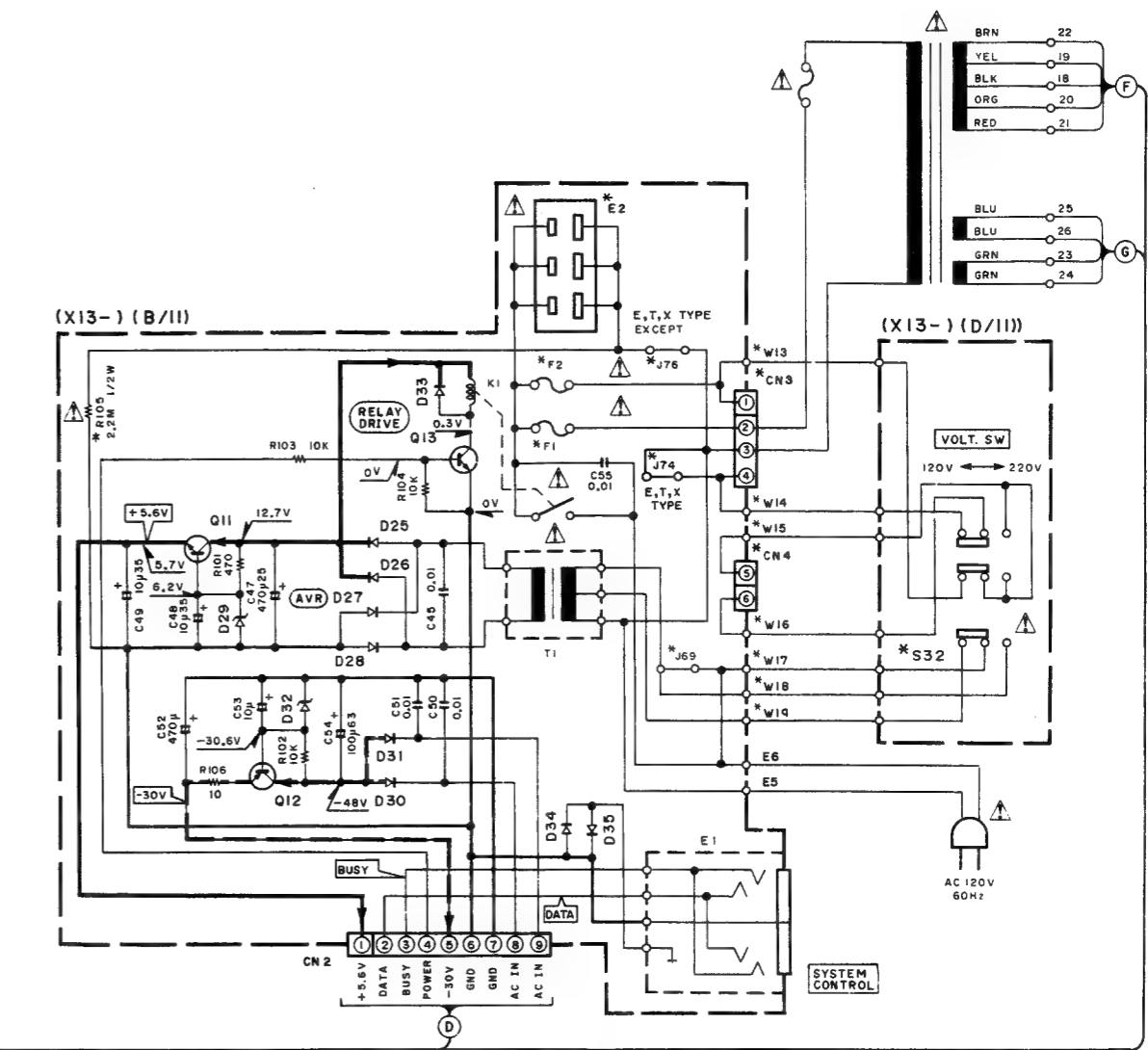
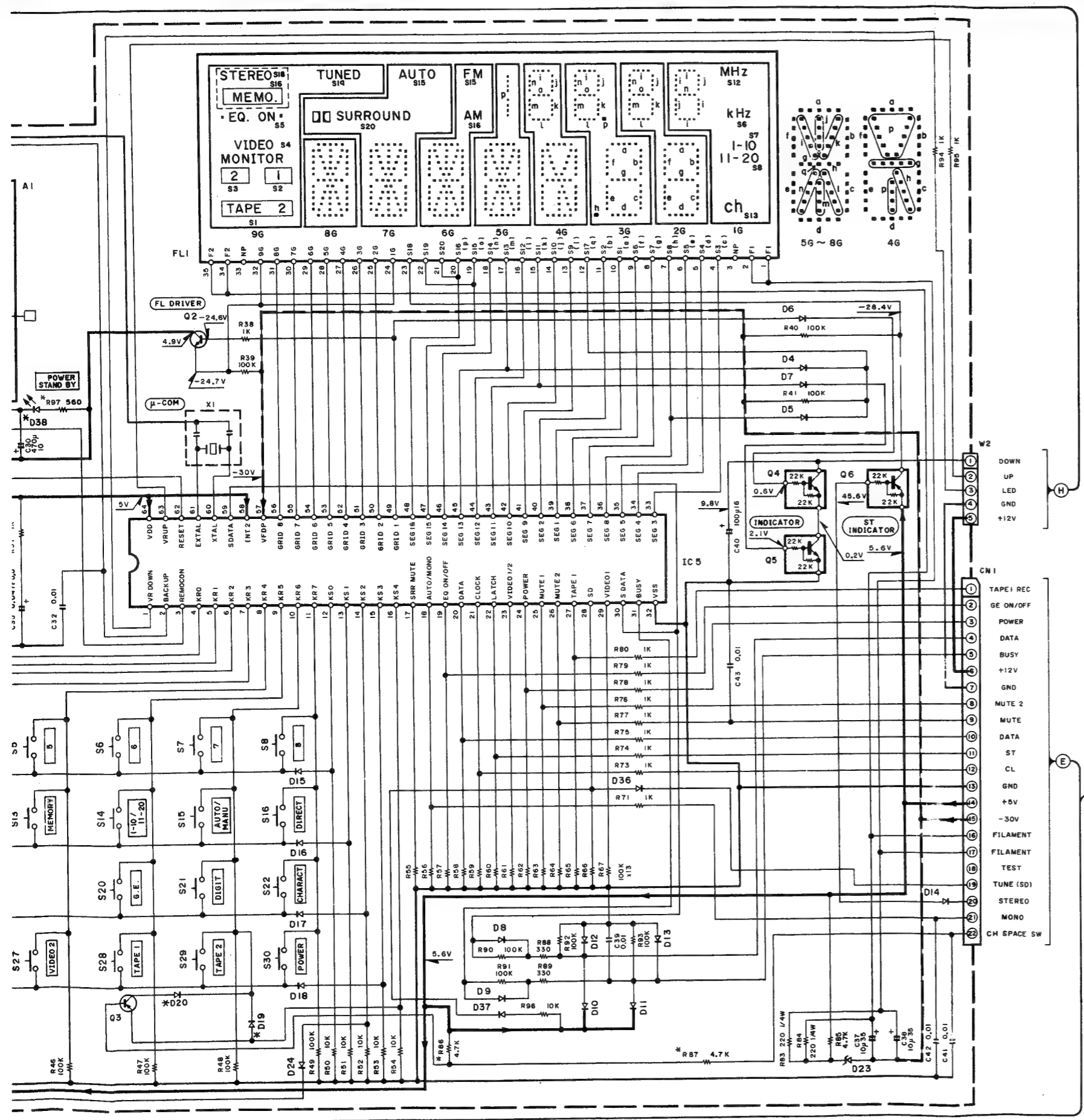
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SIGNAL LINE  
GND LINE  
+B LINE  
-B LINE

(X13-619X-XX)(A/II)



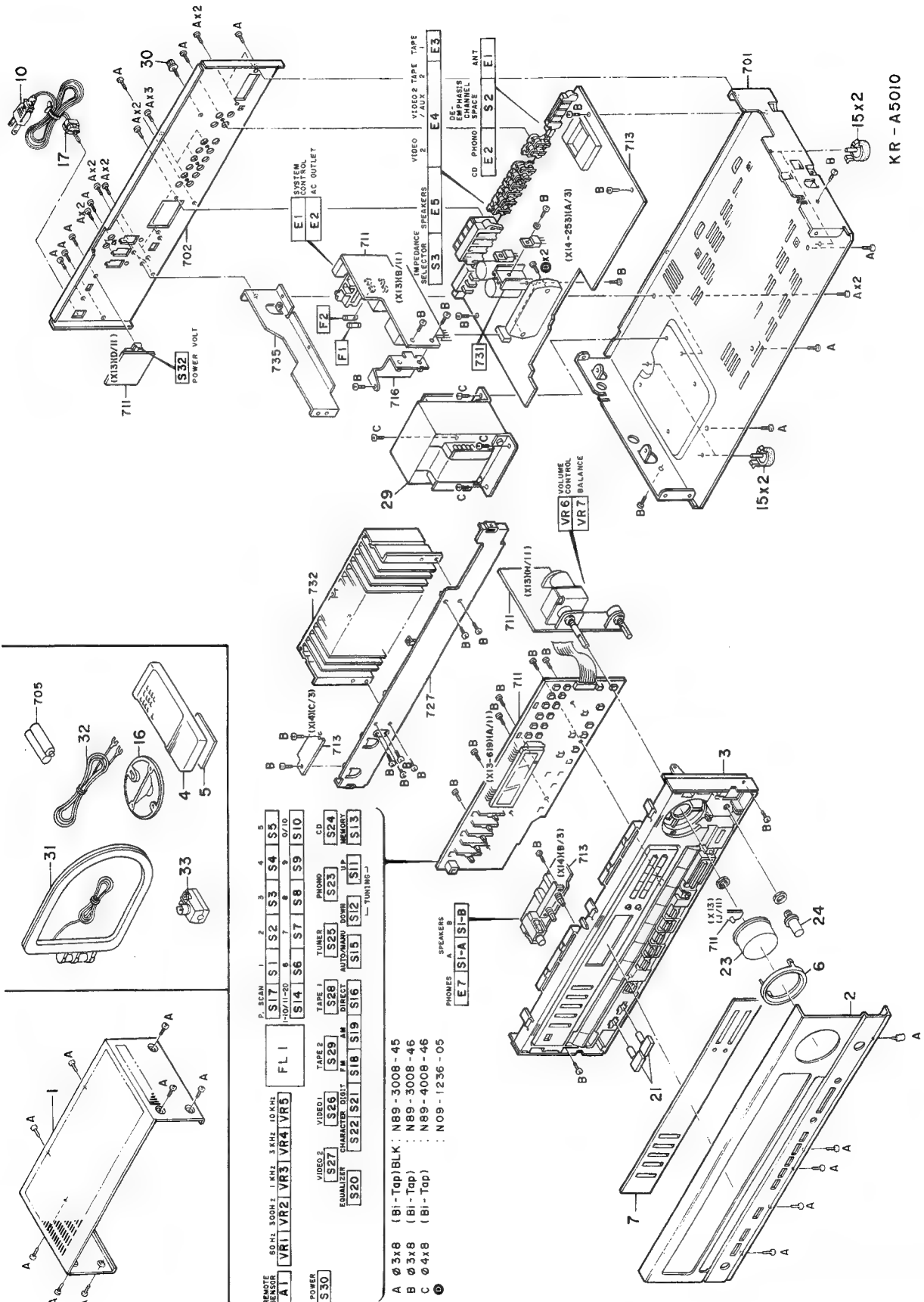


(X13-619X-XX)

DESTINATION	Ref. No.	C3,4	C13,14	C13,14	CN3	CN4	D19	D20	D38	E2	F1	F2	J62	J69	J76	J74,79	R86,87	R97	R105	S32	W13-19
0-11	K,P	NO	NO	2P	NO	NO	NO	NO	NO	YES	5A125V	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO
0-22	U,UE,M	NO	NO	4P	YES	NO	YES	NO	YES	YES	2.5A250V	2.5A250V	YES	NO	NO	NO	YES	NO	NO	YES	YES
0-71	X	NO	NO	2P	NO	NO	YES	NO	YES	NO	T2.5A	NO	NO	YES	YES	YES	NO	YES	NO	NO	NO
2-71	E	YES	YES	2P	NO	YES	NO	YES	NO	NO	T2.5A	T2.5A	NO	YES	YES	YES	NO	YES	NO	NO	NO

## EXPLODED VIEW

KR-A5010



# KR-A5010

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<b>KR-A5010</b>						
1	1A		A01-1746-01	METALLIC CABINET		
2	2A	*	A20-5773-12	PANEL	KPUUEM	
2	2A	*	A20-5773-12	PANEL	X	
2	2A		A20-5803-12	PANEL	E	
3	2B		A22-1084-01	SUB PANEL		
4	2B		A70-0264-05	REMOTE CONTROLLER ASSY(RC6010)		
5	1B		A09-0087-08	BATTERY CASE		
6	2A		B07-1889-04	ESCUTCHEON		
7	2A		B10-1004-03	FRONT GLASS	KPUUEM	
7	2A	*	B10-1005-03	FRONT GLASS	XE	
-			B46-0092-03	WARRANTY CARD	K	
-			B46-0094-03	WARRANTY CARD	UUE	
-			B46-0095-03	WARRANTY CARD	UUE	
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0121-03	WARRANTY CARD	P	
-			B46-0122-13	WARRANTY CARD	E	
-			B50-9486-00	INSTRUCTION MANUAL(ENG)	KPUUEM	
-			B50-9486-00	INSTRUCTION MANUAL(ENG)	X	
-		*	B50-9487-10	INSTRUCTION MANUAL(FRE)	PME	
-			B50-9488-00	INSTRUCTION MANUAL(G/D/I)	E	
-		*	B50-9489-10	INSTRUCTION MANUAL(SPANISH)	M	
-			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
-			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
-			B58-0803-13	CAUTION CARD	E	
△ 10	1C		E30-0459-05	AC POWER CORD	E	
△ 10	1C		E30-0812-05	AC POWER CORD	UUEM	
△ 10	1C		E30-1341-05	AC POWER CORD	X	
△ 10	1C		E30-2209-05	AC POWER CORD	KP	
-			E30-0977-05	CORD WITH PLUG(SYNCHRO)	E	
-			E30-1392-05	CORD WITH PLUG(SYNCHRO)X2	E	
△ E2	1C		E03-0055-05	AC OUTLET	E	
-			H01-8449-04	ITEM CARTON CASE		
-			H10-3798-02	POLYSTYRENE FOAMED FIXTURE		
-			H10-3799-02	POLYSTYRENE FOAMED FIXTURE		
-			H25-0181-04	PROTECTION BAG (150X260X0.05)		
-			H25-0223-04	PROTECTION BAG (750X350X0.03)		
-			H25-0232-04	PROTECTION BAG (235X350X0.03)		
15	2B, 2C		J02-1013-05	FOOT	KPUUEM	
15	2B, 2C		J02-1013-05	FOOT	X	
15	2B, 2C		J02-1034-05	FOOT	E	
16	1B		J19-2815-04	ANTENNA HOLDER		
△ 17	1C		J42-0083-05	POWER CORD BUSHING		
-			J61-0307-05	WIRE BAND		
21	2A		K27-1987-04	KNOB (BUTTON) SPEAKERS		
23	2A		K29-3581-04	KNOB ASSY (VOLUME)		
24	2A		K29-3632-04	KNOB (BALANCE)		
△ 29	1B		L01-6001-05	POWER TRANSFORMER	K	
△ 29	1B		L01-6002-05	POWER TRANSFORMER	E	
△ 29	1B		L01-6005-05	POWER TRANSFORMER	UUEM	
△ 29	1B		L01-6007-05	POWER TRANSFORMER	P	

E: Scandinavia & Europe K: USA

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29	1B		L01-6008-05	POWER TRANSFORMER	X	
30	1C		N08-0128-35	BINDING POST (GND)		
A			N89-3008-45	BINDING HEAD TAPTITE SCREW		
B			N89-3008-46	BINDING HEAD TAPTITE SCREW		
C			N89-4008-46	BINDING HEAD TAPTITE SCREW		
31	1D		T90-0174-05	LOOP ANTENNA		
32	1E		T90-0175-05	T TYPE ANTENNA		
33	1B		T90-0177-05	ANTENNA ADAPTOR	E	
SUB UNIT (X13-619X-XX) 0-11 : K, P 0-22 : U, UE, M 0-71 : X 2-71 : E						
D38			B30-0431-05	LED(LN21CPH)	XE	
D43			B30-1012-05	LED(SLP-981C-50)		
C1			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C2			CE04JW1H010M	ELECTRO 1.0UF 50WV		
C3 ,4			CC45FSL1H101J	CERAMIC 100PF J	E	
C5 ,6			CK45FB1H471K	CERAMIC 470PF K		
C7 ,8			CE04LW1V100M	ELECTRO 10UF 35WV		
C9 ,10		*	CE04LW1HR10M	ELECTRO 0.10UF 50WV		
C11 ,12			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C13 ,14			CF92FV1H223J	MF 0.022UF J		
C15 ,16			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C17 ,18			CF92FV1H562J	MF 5600PF J		
C19 ,20			CF92FV1H154J	MF 0.15UF J		
C21 ,22			CF92FV1H182J	MF 1800PF J		
C23 ,24			CF92FV1H473J	MF 0.047UF J		
C25 ,26			CK45FB1H561K	CERAMIC 560PF K		
C27 ,28			CF92FV1H153J	MF 0.015UF J		
C29		*	CE04JW1A101M	ELECTRO 100UF 10WV		
C30			CE04LW1A471M	ELECTRO 470UF 10WV		
C31			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C32 ,33			CK45FF1H103Z	CERAMIC 0.010UF Z		
C34			CE04LW1A101M	ELECTRO 100UF 10WV		
C35			C91-0937-05	BACKUP 0.047F 5.5WV		
C36			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C37 ,38			CE04LW1V100M	ELECTRO 10UF 35WV		
C39			CK45FF1H103Z	CERAMIC 0.010UF Z		
C40			CE04LW1C101M	ELECTRO 100UF 16WV		
C41 -43			C91-0769-05	CERAMIC 0.01UF M		
C45			CK45FF1H103Z	CERAMIC 0.010UF Z		
C47			CE04LW1E471M	ELECTRO 470UF 25WV		
C48 ,49			CE04LW1V100M	ELECTRO 10UF 35WV		
C50 ,51			CK45FF1H103Z	CERAMIC 0.010UF Z		
C52			CE04LW1H471M	ELECTRO 470UF 50WV		
C53			CE04LW1H100M	ELECTRO 10UF 50WV		
C54			CE04LW1J101M	ELECTRO 100UF 63WV		
C55			C91-0023-05	CERAMIC 0.01UF AC250V	UEM	
C55			C91-0647-05	CERAMIC 0.01UF P	KPXE	
C61			C90-1353-05	NP-ELEC 10UF 25WV		
C62 ,63			CF92FV1H104J	MF 0.10UF J		
C64 ,65			CK45FF1H103Z	CERAMIC 0.010UF Z		
C92 ,93			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C101,102			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C103,104			CC45FSL1H101J	CERAMIC 100PF J		
C105,106			C91-0769-05	CERAMIC 0.01UF M	E	

E: Scandinavia & Europe K: USA P: Canada  
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C107,108 C111,112 C113,114			CK45FF1H103Z CK45FB1H102K CC445FSL1H221J	CERAMIC 0.010UF Z CERAMIC 1000PF K	E	
E1	1C		E11-0188-05-	MINIATURE PHONE JACK (SYSTEM)		
△ E2	1C	*	E03-0107-05	AC OUTLET	KPUUEM	
△ F1	1C		F04-5022-05	FUSE (UL) (125V 5A)	KP	
△ F1	1C		F05-2525-05	FUSE (SEMKO) (250V T2.5A)	X	
△ F1 ,2	1C		F05-2525-05	FUSE (SEMKO) (250V T2.5A)	E	
△ F1 ,2	1C		F06-2526-05	FUSE (250V 2.5A)	UUEM	
-			J13-0054-05	FUSE CLIP		
△ T1			L01-7651-05	POWER TRANSFORMER	KP	
△ T1			L01-7652-05	POWER TRANSFORMER	E	
△ T1			L01-7653-05	POWER TRANSFORMER	UUEM	
△ T1			L01-7657-05	POWER TRANSFORMER	X	
X1			L78-0209-05	RESONATOR (4.194MHZ)		
R105			R92-0173-05	RC 2.2M M 1/2W	KP	
R106			RD14NB2E100J	RD 10 J 1/4W		
VR1 -5	1A	*	R13-5087-05	POTENTIOMETER (EQ)		
VR6	2B		R29-5022-05	POTENTIOMETER VOLUME		
VR7	2B	*	R01-5066-05	POTENTIOMETER BALANCE		
K1			S51-1052-05	MAGNETIC RELAY		
△ S1 -30	1A		S40-1064-05	PUSH SWITCH (SELECTOR)	UUEM	
△ S32	1C		S31-3010-05	SLIDE SWITCH (POWER VOLTAGE)		
D1 -3			HSS104	DIODE		
D1 -3			1SS133	DIODE		
D4 -7			HSS104A	DIODE		
D4 -7			1SS131	DIODE		
D8 -18			HSS104	DIODE	KPUUEM	
D8 -18			1SS133	DIODE	KPUUEM	
D8 -19			HSS104	DIODE	XE	
D8 -19			1SS133	DIODE	XE	
D20			HSS104	DIODE	UUEM	
D20			1SS133	DIODE	UUEM	
D23			HZS6.8N(D2)	ZENER DIODE		
D23			RD6.8ES(B2)	ZENER DIODE		
D24			HSS104	DIODE		
D24			1SS133	DIODE		
D25 -28			S5566B	DIODE		
D29			HZS6.2N(B2)	ZENER DIODE		
D29			RD6.2ES(B2)	ZENER DIODE		
D30 ,31			S5566B	DIODE		
D32			HZS30N(B)	ZENER DIODE		
D32			RD30ES(B)	ZENER DIODE		
D33			S5566B	DIODE		
D34 -37			HSS104	DIODE		
D34 -37			1SS133	DIODE		
D41			HZS5.1S(B2)	ZENER DIODE		
D41			RD5.1JS(B2)	ZENER DIODE		
FL1	1A		9-MT-76GK	FLUORESCENT INDICATOR TUBE		
IC1 -3			AN6554	IC(OP AMP X4)		
IC1 -3			NJM2058D	IC(OP AMP X4)		
IC1 -3			UPC4574C	IC(OP AMP X4)		
IC4			PST529C	IC(SYSTEM RESET)		

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IC5 IC6 IC9 IC9 Q1 ,2 Q1 ,2 Q3 Q3 Q4 ,5 Q6  Q11 Q12 Q13  A1 A1			CXP5016-330S LB1641 M5218P NJM4558B 2SC1740S(Q,R)  2SC945(A)(Q,P) 2SA733(A)(Q,P) 2SA933S(Q,R) DTC124EN DTA124EN  2SC2003(L,K) 2SB772 2SC2320(E,F)  W02-0776-05 W02-0975-05	IC(MICROPROCESSOR) IC(MOTOR DRIVER) IC(OP AMP X2) IC(OP AMP ^2) TRANSISTOR  TRANSISTOR TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR  TRANSISTOR TRANSISTOR TRANSISTOR  REMOTE CONTROL SENSOR REMOTE CONTROL SENSOR		
<b>SUB UNIT (X13-6202-71) E type only</b>						
C1 C2 C3  CN1 ,2  R1 R6  K1  D1 D2 D2 D3 D4  D4 Q1 Q2 Q2 Q3			CE04LW1H010M CE04LW1H101M CE04LW1C101M  E10-C408-05  RD14GB2E4R7J RD14GB2E391J  S51-2078-05  S5566B HSS104A 1SS131 S5566B HSS104A  1SS131 2SA992(F,E) 2SC1740S(Q,R) 2SC945(A)(Q,P) 2SC2003(L,K)	ELECTRO 1.0UF 50WV ELECTRO 100UF 50WV ELECTRO 100UF 16WV  FLAT CABLE CONNECTOR  FL-PROOF RD 4.7 J 1/4W FL-PROOF RD 390 J 1/4W  MAGNETIC RELAY  DIODE DIODE DIODE DIODE DIODE  DIODE TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	E E E  E  E E E E E  E E E E E	
<b>TUNER UNIT (X14-253X-XX) 0-11 : K, P 0-22 : U, UE, M 0-71 : X 2-71 : E</b>						
C1 C1 C1 C2 C3  C4 C4 C4 C5 C6  C7 C8 C9 C10 C11  C12 C13 C13			C91-0713-05 C91-0716-05 C91-0716-05 CC45FSL1H220J C91-0757-05  C91-0716-05 C91-0716-05 C91-0720-05 C91-0718-05 C91-0716-05  C91-0720-05 C91-0749-05 CK45FB1H103Z CK45FB1H102K CC45FSL1H020C  CK45FB1H102K CK45FB1H102K CK45FB1H102K	CERAMIC 2.2PF K CERAMIC 3.9PF K CERAMIC 3.9PF K CERAMIC 22PF J CERAMIC 1000PF K  CERAMIC 3.9PF K CERAMIC 3.9PF K CERAMIC 8.2PF K CERAMIC 5.6PF K CERAMIC 3.9PF K  CERAMIC 8.2PF K CERAMIC 220PF K CERAMIC 0.010UF Z CERAMIC 1000PF K CERAMIC 2.0PF C  CERAMIC 1000PF K CERAMIC 1000PF K CERAMIC 1000PF K	E KPUUEM X  KPUUEM X E E  E E E E E  E KPUUEM X	

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C14			C91-0709-05	CERAMIC 1PF M	KPUUEM X E	
C14			C91-0709-05	CERAMIC 1PF M		
C14			C91-0713-05	CERAMIC 2.2PF K		
C15			CK45FF1H103Z	CERAMIC 0.010UF Z		
C16			CC45FUJ1H080D	CERAMIC 8.0PF D		
C17			C91-0733-05	CERAMIC 33PF J	E	
C18			CC45FSL1H150J	CERAMIC 15PF J		
C19			C91-0713-05	CERAMIC 2.2PF K		
C20			C91-0737-05	CERAMIC 47PF J		
C21			CC45FSL1H101J	CERAMIC 100PF J		
C22			CK45FB1H102K	CERAMIC 1000PF K		
C23			CK45FF1H103Z	CERAMIC 0.010UF Z		
C24			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C25 ,26			C91-0769-05	CERAMIC 0.01UF M		
C27			CE04LW1C470M	ELECTRO 47UF 16WV		
C28			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C29			CF92FV1H473J	MF 0.047UF J		
C30			CK45FF1H103Z	CERAMIC 0.010UF Z		
C31			CC45FCH1H270J	CERAMIC 27PF J		
C32			CC45FCH1H560J	CERAMIC 56PF J		
C33 -35			CC45FSL1H101J	CERAMIC 100PF J	E	
C36			CE04LW1C101M	ELECTRO 100UF 16WV		
C37			CC93FCH1H391J	CERAMIC 390PF J		
C38 ,39			C91-0769-05	CERAMIC 0.01UF M		
C40			CK45FB1H102K	CERAMIC 1000PF K		
C41 -43			C91-0769-05	CERAMIC 0.01UF M		
C44 ,45			CK45FF1H223Z	CERAMIC 0.022UF Z		
C46			CE04LW1V100M	ELECTRO 10UF 35WV		
C47			C91-0769-05	CERAMIC 0.01UF M		
C48			CK45FF1H223Z	CERAMIC 0.022UF Z		
C49			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C50			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C51			CE04LW1H3R3M	ELECTRO 3.3UF 50WV		
C52			CC45FSL1H101J	CERAMIC 100PF J		
C53			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C54			CE04LW1C470M	ELECTRO 47UF 16WV	E	
C55			CE04LW1V100M	ELECTRO 10UF 35WV		
C56			CF92FV1H153J	MF 0.015UF J		
C57			CC93FCH1H471J	CERAMIC 470PF J		
C58			CF92FV1H473J	MF 0.047UF J		
C59			CK45FB1H471K	CERAMIC 470PF K		
C60			CE04LW1C470M	ELECTRO 47UF 16WV		
C61			CE04LW1H3R3M	ELECTRO 3.3UF 50WV		
C62			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C63			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C64 ,65			CE04LW1C220M	ELECTRO 22UF 16WV	E KPUUEM X E E	
C66 ,67			CC45FSL1H151J	CERAMIC 150PF J		
C66 ,67			CC45FSL1H151J	CERAMIC 150PF J		
C66 ,67			CF92FV1H122J	MF 1200PF J		
C68			CC45FSL1H151J	CERAMIC 150PF J		
C69 ,70			CE04LW1H2R2M	ELECTRO 2.2UF 50WV	UEM UEMX KP	
C71 ,72			CF92FV1H153J	MF 0.015UF J		
C73 ,74			CF92FV1H273J	MF 0.027UF J		
C73 ,74			CF92FV1H433J	MF 0.043UF J		
C75			CK45FF1H223Z	CERAMIC 0.022UF Z		

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C76 C77 ,78 C79 C80 C82			CC45FSL1H220J CF92FV1H682J CE04LW1C470M C91-0769-05 C91-0769-05	CERAMIC 22PF J MF 6800PF J ELECTRO 47UF 16WV CERAMIC 0.01UF M CERAMIC 0.01UF M	E	
C83 ,84 C85 ,86 C87 ,88 C89 ,90 C91 ,92			CE04LW1V100M CC45FSL1H221J CE04LW1A101M CK45FB1H102K CF92FV1H123J	ELECTRO 10UF 35WV CERAMIC 220PF J ELECTRO 100UF 10WV CERAMIC 1000PF K MF 0.012UF J		
C93 ,94 C95 ,96 C97 C98 C99			CF92FV1H332J CE04LW1V4R7M CK45FB1H561K CE04LW1H010M CE04LW1J221M	MF 3300PF J ELECTRO 4.7UF 35WV CERAMIC 560PF K ELECTRO 1.0UF 50WV ELECTRO 220UF 63WV	KPUUEM	
C99 C99 C101-104 C105 C106			CE04LW1J221M CE04LW1J470M CC45FSL1H221J CE04LW1C470M CE04LW1V100M	ELECTRO 220UF 63WV ELECTRO 47UF 63WV CERAMIC 220PF J ELECTRO 47UF 16WV ELECTRO 10UF 35WV	X E	
C108 C108 C109 C110 C111,112			C91-0709-05 C91-0709-05 CE04LW1C101M CE04LW1A101M CE04LW1H010M	CERAMIC 1PF M CERAMIC 1PF M ELECTRO 100UF 16WV ELECTRO 100UF 10WV ELECTRO 1.0UF 50WV	KPUUEM X	
C113,114 C115,116 C117,118 C121 C122			CC45FSL1H221J CC45FSL1H101J CE04LW1A470M CE04LW1J101M CE04LW1H470M	CERAMIC 220PF J CERAMIC 100PF J ELECTRO 47UF 10WV ELECTRO 100UF 63WV ELECTRO 47UF 50WV	E	
C123,124 C125-128 C127,128 C127,128 C129,130			CE04LW1V100M CF92FV1H104J CF92FV1H473J CF92FV1H473J C90-1777-05	ELECTRO 10UF 35WV MF 0.10UF J MF 0.047UF J MF 0.047UF J ELECTRO 5600UF 56WV	E KPUUEM X	
C131 C132 C135 C137 C140		*	CE04LW1J220M CE04LW1C470M CE04LW1E222M CE04LW1C101M CK45FB1H102K	ELECTRO 22UF 63WV ELECTRO 47UF 16WV ELECTRO 2200UF 25WV ELECTRO 100UF 16WV CERAMIC 1000PF K		
C141 C142 C143-146 C147 C148,149			CE04LW1V220M CE04LW1C470M CK45FF1H472Z C90-1349-05 CK45FF1H103Z	ELECTRO 22UF 35WV ELECTRO 47UF 16WV CERAMIC 4700PF Z NP-ELEC 1UF 50WV CERAMIC 0.010UF Z	E	
C150,151 C155,156 C157 C161,162 C163			CK45FF1H472Z CE04LW1H010M C90-1349-05 C91-0769-05 CK45FF1H103Z	CERAMIC 4700PF Z ELECTRO 1.0UF 50WV NP-ELEC 1UF 50WV CERAMIC 0.01UF M CERAMIC 0.010UF Z	E E	
C164,165 TC1 TC2 ,3			CC45FSL1H220J C05-0302-05 C05-0303-05	CERAMIC 22PF J CERAMIC TRIMMER CAPACITOR(11PF CERAMIC TRIMMER CAPACITOR(20PF	E	
E1	2C	*	E20-0321-05	LOCK TERMINAL BOARD ANT	E	

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E1	2C	*	E20-0476-05	LOCK TERMINAL BOARD ANT	KPUUEM	
E1	2C	*	E20-0476-05	LOCK TERMINAL BOARD ANT	X	
E2	2C		E13-0446-05	PHONE JACK (4P)		
E4	1C		E13-0820-05	PHONE JACK		
E5	1C		E20-0823-05	TERMINAL BOARD (8P) SPEAKERS		
E7	1A		E11-0162-05	PHONE JACK (3P)		
CF1 , 2			L72-0531-05	CERAMIC FILTER	KPUUEM	
CF1 , 2			L72-0531-05	CERAMIC FILTER	X	
CF1 , 2			L72-0536-05	CERAMIC FILTER	E	
CF3			L72-0099-05	CERAMIC FILTER		
CF4			L72-0096-05	CERAMIC FILTER		
L1			L31-0594-05	FM-RF COIL		
L2			L31-0520-05	FM-RF COIL		
L3			L31-0580-05	FM-RF COIL		
L4			L31-0579-05	FM-RF COIL	KPUUEM	
L4			L31-0579-05	FM-RF COIL	X	
L4 , 5			L31-0579-05	FM-RF COIL	E	
L6			L40-1092-17	SMALL FIXED INDUCTOR(1UH,M)		
L7			L32-0318-05	FM OSCILLATING COIL		
L8			L30-0427-15	FM IFT		
L9			L40-1092-17	SMALL FIXED INDUCTOR(1UH,M)		
L10			L31-0509-05	MW-RF COIL		
L11			L32-0277-15	MW OSCILLATING COIL		
L12			L40-1092-17	SMALL FIXED INDUCTOR(1UH,M)		
L13			L30-0362-05	AM IFT		
L14			L30-0439-15	FM IFT		
L15			L40-1021-14	SMALL FIXED INDUCTOR(1.0MH,K)		
L16			L79-0125-05	LC FILTER	E	
L17			L79-0739-05	LC FILTER	E	
L18 , 19			L39-0085-05	PHASE-COMPENSATION COIL		
X1			L77-0573-05	CRYSTAL RESONATOR(4.5MHZ)		
D			N09-1236-05	TAPPING SCREW (3X16)		
CP1			R90-0187-05	MULTI-COMP 0.22X2 K 5W		
R35			RD14NB2E101J	RD 100 J 1/4W	KPUUEM	
R35			RD14NB2E101J	RD 100 J 1/4W	X	
R35		*	RD14NB2E151J	RD 150 J 1/4W	E	
R38		*	RD14NB2E221J	RD 220 J 1/4W		
R46			RD14NB2E101J	RD 100 J 1/4W		
R49		*	RD14NB2E330J	RD 33 J 1/4W		
R55			RD14NB2E101J	RD 100 J 1/4W	E	
R145			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
R147, 148			RD14NB2E101J	RD 100 J 1/4W		
R169			RD14NB2E101J	RD 100 J 1/4W		
R181, 182			RS14KB3D100J	FL-PROOF RS 10 J 2W		
R187			RD14NB2E4R7J	RD 4.7 J 1/4W		
R199, 200			RS14KB3D332J	FL-PROOF RS 3.3K J 2W		
R203, 204			RS14KB3A561J	FL-PROOF RS 560 J 1W		
VR1			R12-3130-05	TRIMMING POT.(33K) FM TUNE		
VR2			R12-3126-05	TRIMMING POT.(10K) AM TUNE		
VR3			R12-1089-05	TRIMMING POT.(4.7K)VC0		
VR4			R12-5060-05	TRIMMING POT.(220K)FM SEPA	E	
S1	1A	*	S42-2170-05	PUSH SWITCH (SPEAKERS)		
S2	2C		S31-2132-05	SLIDE SWITCH (EMPHA/CH-SPACE)	UUEM	

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S3	1C		S31-2136-05	SLIDE SWITCH (IMPEDANCE)		
			2SC1740S(Q,R)	TRANSISTOR	UUEME	
D1 -4			KV1310-4	VARIABLE CAPACITANCE DIODE	E	
D1 ,2			KV1310-3	VARIABLE CAPACITANCE DIODE	KPUUEM	
D1 ,2			KV1310-3	VARIABLE CAPACITANCE DIODE	X	
D4			KV1310-3	VARIABLE CAPACITANCE DIODE	KPUUEM	
D4			KV1310-3	VARIABLE CAPACITANCE DIODE	X	
D5			HZS5.1N(B2)	ZENER DIODE		
D5			RD5.1ES(B2)	ZENER DIODE		
D6			KV1236(Z2)	VARIABLE CAPACITANCE DIODE		
D8 -18			HSS104	DIODE		
D8 -18			1SS133	DIODE		
D19			HZS3.3N(B2)	ZENER DIODE		
D19			RD3.3ES(B2)	ZENER DIODE		
D20			HZS5.1N(B2)	ZENER DIODE		
D20			RD5.1ES(B2)	ZENER DIODE		
D21 -24			HSS104A	DIODE	E	
D21 -24			1SS131	DIODE	E	
D23 ,24			HSS104A	DIODE	KPUUEM	
D23 ,24			HSS104A	DIODE	X	
D23 ,24			1SS131	DIODE	KPUUEM	
D23 ,24			1SS131	DIODE	X	
△ D25			RBV-602LFA	DIODE		
D26			S5566B	DIODE		
D27			HSS104A	DIODE		
D27			1SS131	DIODE		
D29 -32			S5566B	DIODE		
D34 ,35			HSS104	DIODE		
D34 ,35			1SS133	DIODE		
D36			HSS104A	DIODE		
D36			1SS131	DIODE		
IC1			LA1265	IC(FM/AM TUNER)		
IC2			CX-7925B	IC(DIGITAL SELECT PLL)		
IC3			AN7470	IC(FM MPX)		
IC4			M5218P-A	IC(OP AMP X2)		
IC4			NJM4558D-A	IC(OP AMP X2)		
IC5			LC7820	IC(ELECTRO CONTROL SWITCH)		
△ IC6			TC9215P	IC(ANALOG SWITCH X 6)		
△ IC7		*	STK4201/2	IC	KPUUEM	
△ IC7		*	STK4201/2	IC	X	
△ IC7		*	STK4201/5	IC	E	
IC8			UPC7812HF	IC(VOLTAGE REGULATOR/ +12V)		
Q1			2SK241(Y)	FET	KPUUEM	
Q1			2SK241(Y)	FET	X	
Q1			3SK73(GR)	FET	E	
Q2			2SC1923(O)	TRANSISTOR		
Q3 ,4			2SC1923(R,O)	TRANSISTOR		
Q5			2SK161(Y,GR)	FET	E	
Q6			2SC1923(R,O)	TRANSISTOR		
Q7			2SC1845(F,E)	TRANSISTOR		
Q8			2SC1740S(Q,R)	TRANSISTOR	KPX	
Q8			2SC945(A)(Q,P)	TRANSISTOR	KPUUEM	
Q8			2SC945(A)(Q,P)	TRANSISTOR	X	
Q8 ,9			2SC945(A)(Q,P)	TRANSISTOR	E	

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Q10 ,11			2SC945(A)(Q,P)	TRANSISTOR	UUEM	
Q12			DTC124ES	DIGITAL TRANSISTOR		
Q13			DTA114ES	DIGITAL TRANSISTOR		
Q14			DTC124ES	DIGITAL TRANSISTOR		
Q15			DTA114ES	DIGITAL TRANSISTOR		
Q17 ,18			2SC2878(B)	TRANSISTOR		
Q19			2SA733(A)(Q,P)	TRANSISTOR		
Q19			2SA933S(Q,R)	TRANSISTOR		
Q20 ,21			2SC2878(B)	TRANSISTOR		
Q22			2SA733(A)(Q,P)	TRANSISTOR		
Q22			2SA933S(Q,R)	TRANSISTOR		
Q25			2SA733(A)(Q,P)	TRANSISTOR		
Q25			2SA933S(Q,R)	TRANSISTOR		
Q26 ,27			2SC1845(F,E)	TRANSISTOR		
Q29 ,30			2SA733(A)(Q,P)	TRANSISTOR		
Q29 ,30			2SA933S(Q,R)	TRANSISTOR		
Q31			2SD1266	TRANSISTOR		

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# KR-A5010

## SPECIFICATIONS

### AUDIO SECTION

Rated Power Output (Except for Europe)

60 watts per channel minimum RMS, both channels driven at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.5% total harmonic distortion. (FTC)

Maximum continuous output power (For Europe)

(IEC) from 63 Hz to 12,500 Hz 0.7% T.H.D.  
at 8 ohms ..... 60 W + 60 W

(DIN) 1,000 Hz at 4 ohms ..... 60 W + 60 W

Total Harmonic Distortion

(1 kHz 8 ohms) ..... 0.1%

Input Sensitivity/Impedance

PHONO (MM) ..... 2.5 mV/47 kohms

CD, TAPE, VIDEO ..... 150 mV/47 kohms

Frequency Response

CD, TAPE, VIDEO ..... 10 Hz - 70 kHz +0 dB  
-3 dB

Signal-to-Noise Ratio (IHF-A)

PHONO (MM) ..... 70 dB

CD, TAPE, VIDEO ..... 100 dB

Graphic Equalizer

Center Frequencies ..... 60 Hz, 300 Hz, 1 kHz,  
3 kHz, 10 kHz

Control Range .....  $\pm 12$  dB

### FM TUNER SECTION

Tuning Frequency Range ..... 87.5 MHz - 108 MHz

Antenna Impedance ..... 300 ohms balanced &  
75 ohms unbalanced

Sensitivity

IHF ..... 11.2 dBf (2.0  $\mu$ V at 300 ohms)

DIN (MONO) ..... 0.9  $\mu$ V

(STEREO) ..... 25  $\mu$ V

Signal-to-Noise Ratio at 65 dBf (IHF)

Mono ..... 78 dB

Stereo ..... 72 dB

Total Harmonic Distortion at 1,000 Hz

Mono ..... 0.2%

Stereo ..... 0.3%

Frequency response ..... 30 Hz to 15 kHz +1.0 dB  
-2.5 dB

Stereo Separation ..... 40 dB at 1 kHz

### AM TUNER SECTION

Tuning Range

530 kHz - 1.610 kHz

(with the AM tuning interval set at 10 kHz)

531 kHz - 1.602 kHz

(with AM tuning interval set at 9 kHz)

Usable Sensitivity ..... 10  $\mu$ V (320  $\mu$ V/m)

Signal-to-Noise Ratio ..... 50 dB

Total Harmonic Distortion ..... 0.45%

Selectivity ..... 25 dB

### GENERAL

Power Consumption ..... 2.0A...USA Model/150 W...Others

Dimensions ..... 440 (W)  $\times$  133 (H)  $\times$  284 (D) mm  
(17-5/16"  $\times$  5-1/4"  $\times$  11-3/16")

Weight (Net) ..... 6.0 kg (13.2 lb)

#### Note:

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

#### Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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